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FILE LAST UPDATED: 28 Apr 2005  (20050428/ED)

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                 E"/AU OR "GARZON AARON"/AU)
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                 OR "FINK G B"/AU OR "FINK G C"/AU OR "FINK G D"/AU OR "FINK G
                 E"/AU OR "FINK G J"/AU OR "FINK G R"/AU) OR ("FINK GEORG"/AU
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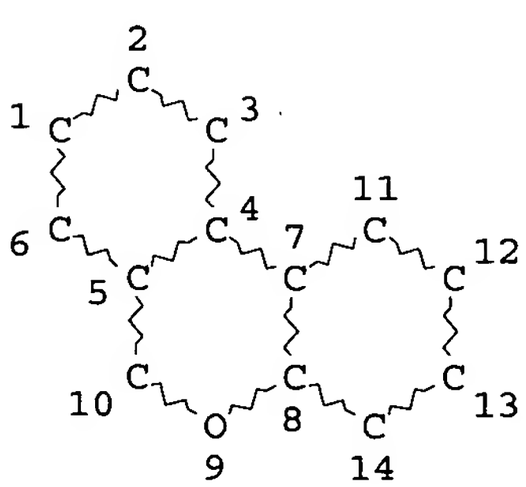


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DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS  14
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L53         4475 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L50 AND L52
L54          182 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L53 AND ?PSYCHOTRO?
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                 ?) AND L55


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L56  ANSWER 1 OF 32  HCAPLUS  COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER:         2001:13489  HCAPLUS
DOCUMENT NUMBER:          135:70407
TITLE:                    Dexanabinol Pharmos
AUTHOR(S):                Pop, Emil
CORPORATE SOURCE:         Alchem Laboratories Corporation, Alachua, FL, 32615,
                          USA
SOURCE:                   Current Opinion in Investigational Drugs (PharmaPress
                          Ltd.) (2000), 1(4), 494-503
                          CODEN: COIDAZ
PUBLISHER:                PharmaPress Ltd.
DOCUMENT TYPE:            Journal; General Review
LANGUAGE:                 English
AB   A review, with 106 refs.  Dexanabinol is a non-
     psychotropic cannabinoid NMDA receptor antagonist under
     development by Pharmos Corp for the potential treatment of cerebral
     ischemia, glaucoma, Alzheimer's disease, cardiac failure, head injury and
     multiple sclerosis (MS); it is in phase III trials for traumatic brain
     injury (TBI).  Dexanabinol was licensed to Pharmos for development from
     its originator, the Hebrew University of Jerusalem.  Pharmos is seeking to
     enter into a strategic agreement with another company to develop and
     commercialize dexanabinol.  Unlike its enantiomer, HU-210 (Yissum Research
     Development Co), dexanabinol does not interact with cannabinoid
     receptors.  It has also exhibited more effective antioxidant and
     anti-inflammatory properties than MK-801 (dizocilpine; Merck & Co Inc).
     In addition, dexanabinol is generally well tolerated and appears toxicol.
     safe.  Pharmos has been awarded a Small Business Innovation Research grant
     from the National Institutes of Health (NIH) National Institute of Neurol.
     Disorders and Stroke, Division of Stroke and Trauma.  The grant covers the
     development of new prodrugs and novel formulations of dexanabinol and will
     support addnl. study of dexanabinol compds. for various indications.  The
     prodrugs being studied are part of the group of compds. that include
     dexanabinol.  A Notice of Allowance was received in Mar. 1999 on a patent
     covering the use of the drug in the treatment of MS.  The use of
     dexanabinol and its derivs. to treat MS is described in US-05932610.  An
     oral formulation of dexanabinol is claimed in US-05891468.  Dexanabinol
     analogs with special utility in acute and chronic pain are claimed in
     US-04876276, while dexanabinol analogs for neuroprotection are claimed in
     US-06096740.  Pharmos ests. that the worldwide market for dexanabinol in
     the treatment of severe head trauma may reach $1 billion per yr.
IT   112924-45-5P, Dexanabinol
     RL: ADV (Adverse effect, including toxicity); BAC (Biological activity or
     effector, except adverse); BPR (Biological process); BSU (Biological
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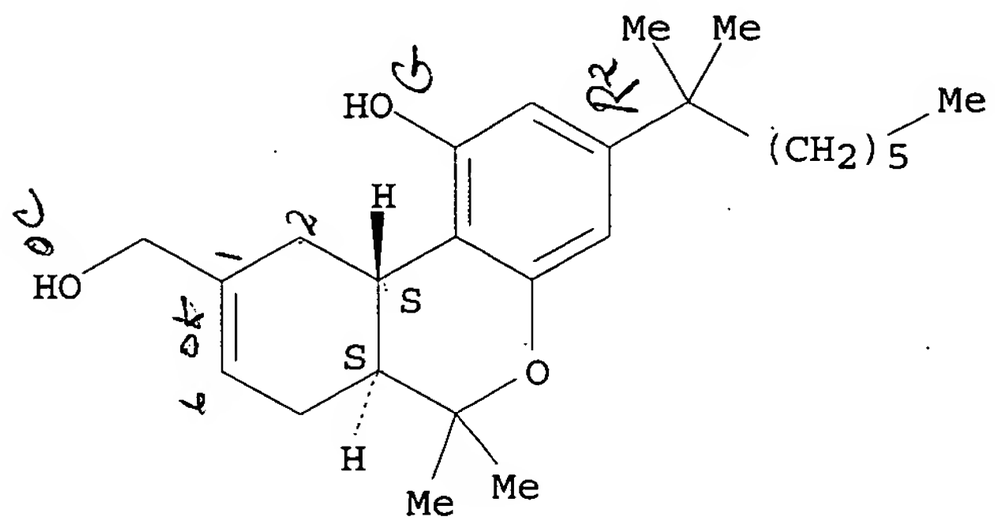
study, unclassified); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); PROC (Process); USES (Uses)
(therapeutic uses of dexanabinol)

RN 112924-45-5 HCAPLUS
CN 6H-Dibenzo[b,d]pyran-9-methanol, 3-(1,1-dimethylheptyl)-6a,7,10,10a-tetrahydro-1-hydroxy-6,6-dimethyl-, (6aS,10aS)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(therapeutic uses of dexanabinol

REFERENCE COUNT: 106 THERE ARE 106 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L56 ANSWER 2 OF 32 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2000:724276 HCAPLUS
DOCUMENT NUMBER: 134:25030
TITLE: Dexanabinol (HU-211): a **nonpsychotropic cannabinoid** with neuroprotective properties
AUTHOR(S): Shohami, Esther; Mechoulam, Raphael
CORPORATE SOURCE: Department of Pharmacology, School of Pharmacy, The Hebrew University, Jerusalem, 91120, Israel
SOURCE: Drug Development Research (**2000**), 50(3/4), 211-215
CODEN: DDREDK; ISSN: 0272-4391
PUBLISHER: Wiley-Liss, Inc.
DOCUMENT TYPE: Journal; General Review
LANGUAGE: English

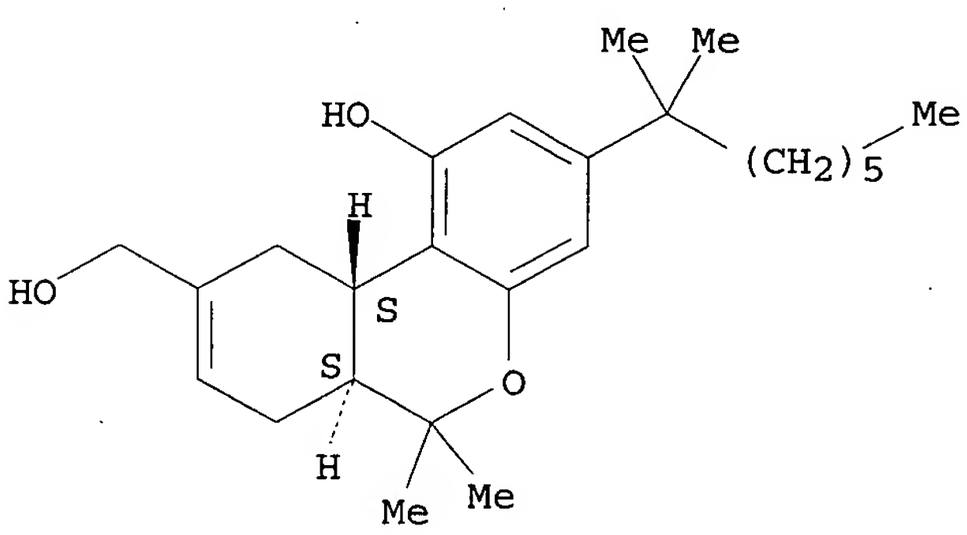
AB A review with 34 refs. The synthetic **cannabinoid** 1',1'-dimethylheptyl-(+)-(6aS,10aS)-11-hydroxy-Δ8-**tetrahydrocannabinol** (dexanabinol, HU-211) is inactive as a **cannabimimetic**, but exhibits pharmacol. properties characteristic of an N-methyl-D-aspartate (NMDA)-receptor antagonist. It blocks NMDA receptors stereospecifically by interacting with a site close to, but distinct from, that of uncompetitive NMDA receptor antagonists and from the recognition sites of glutamate, glycine, and polyamines. HU-211 inhibits the synthesis of tumor necrosis factor-α (TNFα) and possesses antioxidant properties. HU-211 blocked NMDA-induced 45Ca uptake by primary neuronal cultures of rat forebrain and protected the same neuronal cultures against NMDA and glutamate neurotoxicity. Moreover, HU-211 effectively scavenged peroxy radicals in vitro and protected cultured neurons from the toxic effects of reactive O species (ROS). In addition, HU-211 markedly suppressed in vitro TNFα production and NO

generation (by >90%) by both murine peritoneal macrophages and rat alveolar macrophages exposed to lipopolysaccharide. Since glutamate, ROS and TNFα are implicated in the pathophysiol. of various acute conditions, the promising results showing neuroprotection by HU-211, acting via multiple mechanisms, led to a series of studies in which the drug was given to exptl. animals. This review discusses results from expts. describing the potential use of HU-211 as a neuroprotective agent in models of traumatic brain injury, stroke, optic nerve injury, pneumococcal meningitis, sepsis, and soman toxicity. In addition, HU-211 has been introduced into clin. trials for traumatic brain injury, and the successful results of two phases of clin. trials in head-injured patients are also shown.

IT **112924-45-5**, Dexanabinol
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(dexanabinol (HU-211): a **nonpsychotropic cannabinoid** with neuroprotective properties)

RN 112924-45-5 HCAPLUS
CN 6H-Dibenzo[b,d]pyran-9-methanol, 3-(1,1-dimethylheptyl)-6a,7,10,10a-tetrahydro-1-hydroxy-6,6-dimethyl-, (6aS,10aS)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



REFERENCE COUNT: 34 THERE ARE 34 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L56 ANSWER 3 OF 32 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2000:614231 HCAPLUS
DOCUMENT NUMBER: 133:275752
TITLE: **Nonpsychotropic** synthetic **cannabinoids**
AUTHOR(S): Pop, Emil
CORPORATE SOURCE: Alchem Laboratories Corporation, Alachua, FL, USA
SOURCE: Current Pharmaceutical Design (**2000**), 6(13), 1347-1359
CODEN: CPDEFP; ISSN: 1381-6128
PUBLISHER: Bentham Science Publishers
DOCUMENT TYPE: Journal; General Review
LANGUAGE: English

AB A review with 61 refs. Unlike natural **cannabinoids** which belong to the 6aR - trans series, the synthetic dexanabinol (HU-211), a 6aS-trans enantiomer, does not have affinity toward **cannabinoid** receptors and is devoid of **cannabimimetic** activity. On the other hand, dexanabinol demonstrated significant neuroprotective properties which prompted its development as a therapeutic agent. We now present the

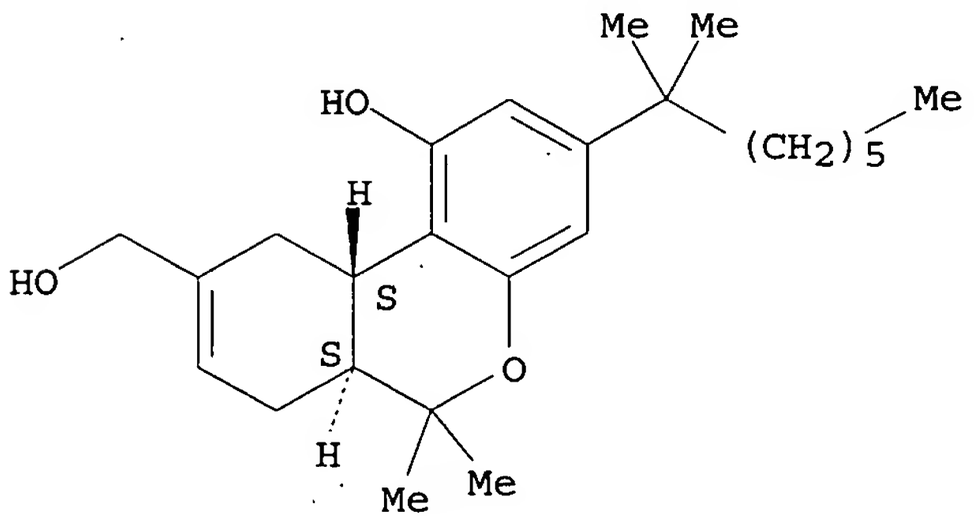
extension of a series of 6aS-trans **cannabinoids** with novel derivs., including water soluble derivs. and congeners of dexanabinol.

IT **112924-45-5**, Dexanabinol
RL: ADV (Adverse effect, including toxicity); BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(**nonpsychotropic** synthetic **cannabinoids**)

RN 112924-45-5 HCAPLUS

CN 6H-Dibenzo[b,d]pyran-9-methanol, 3-(1,1-dimethylheptyl)-6a,7,10,10a-tetrahydro-1-hydroxy-6,6-dimethyl-, (6aS,10aS)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



REFERENCE COUNT: 61 THERE ARE 61 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L56 ANSWER 4 OF 32 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2000:614228 HCAPLUS

DOCUMENT NUMBER: 133:260976

TITLE: Looking back at **cannabis** research

AUTHOR(S): Mechoulam, Raphael

CORPORATE SOURCE: Medical Faculty, Department of Medicinal Chemistry and Natural Products, Hebrew University, Jerusalem, 91120, Israel

SOURCE: Current Pharmaceutical Design (**2000**), 6(13), 1313-1322
CODEN: CPDEFP; ISSN: 1381-6128

PUBLISHER: Bentham Science Publishers

DOCUMENT TYPE: Journal; General Review

LANGUAGE: English

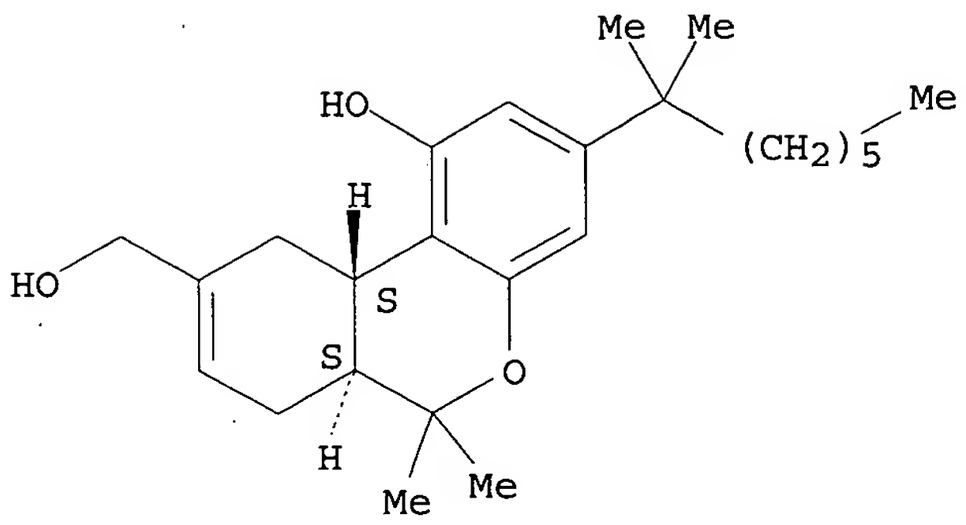
AB A review with 70 refs. Research leading to the isolation of the plant **cannabinoids** during the 1960's and to the endogenous **cannabinoids**, during the 1990's is described. Investigations on two **non-psychotropic**, synthetic **cannabinoids**, HU-211, a neuroprotective agent and HU-308, a specific CB2 agonist are presented.

IT **112924-45-5**, HU-211
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); BIOL (Biological study)
(looking back at **cannabis** research)

RN 112924-45-5 HCAPLUS

CN 6H-Dibenzo[b,d]pyran-9-methanol, 3-(1,1-dimethylheptyl)-6a,7,10,10a-tetrahydro-1-hydroxy-6,6-dimethyl-, (6aS,10aS)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



REFERENCE COUNT: 70 THERE ARE 70 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

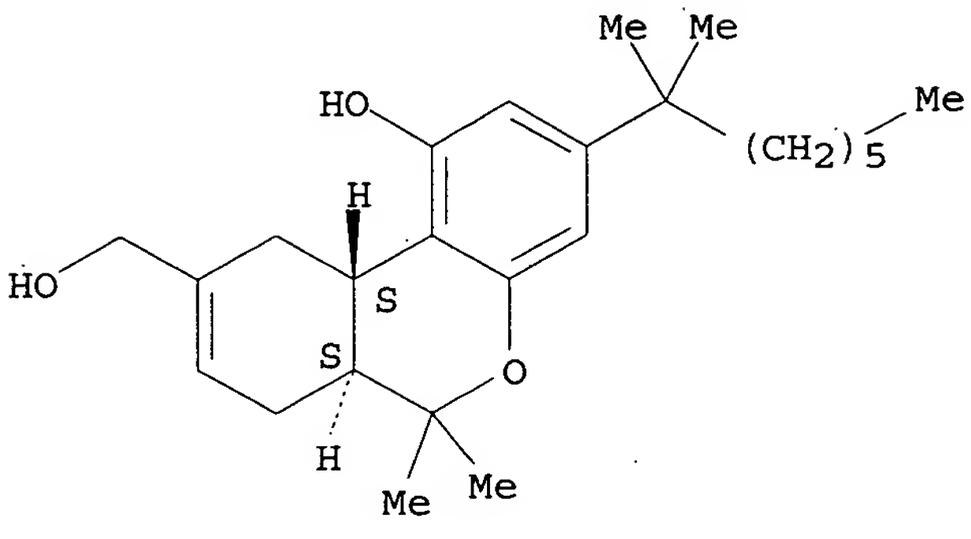
L56 ANSWER 5 OF 32 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2000:430923 HCAPLUS
DOCUMENT NUMBER: 133:290851
TITLE: A submicron emulsion of HU-211, a synthetic **cannabinoid**, reduces intraocular pressure in rabbits
AUTHOR(S): Naveh, Nava; Weissman, Channa; Muchtar, Shaul; Benita, Shimon; Mechoulam, Raphael
CORPORATE SOURCE: Glaucoma and Pharmacology Laboratory, Goldschleger Eye Research Institute, Tel Hashomer, 52621, Israel
SOURCE: Graefe's Archive for Clinical and Experimental Ophthalmology (**2000**), 238(4), 334-338
CODEN: GACODL; ISSN: 0721-832X
PUBLISHER: Springer-Verlag
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Purpose: To study the ocular hypotensive effect of a **nonpsychotropic cannabinoid**, HU-211 (11-hydroxy-Δ8-tetra-**hydrocannabinol**, dimethylheptyl), an N-methyl-D-aspartate (NMDA) agonist, in normotensive rabbits. Methods: The **cannabinoid** HU-211, being lipophilic, was incorporated into a stable oil-in-water submicron sterile emulsion, consisting of 0.12% (weight/weight) HU-211. A single- dose, randomized and double-masked study was designed, using a Digilab 30R pneumotonometer to measure intraocular pressure (IOP) in normotensive rabbits. Results: Application of a single dose of HU-211 ophthalmic preparation resulted in an IOP reduction of 5.3 mmHg (24% of baseline), first evident at 1.5 h post application and persisting for over 6 h. A small but significant lowering of pressure (12.5% of baseline) occurred in the contralateral eyes of HU-211 treated rabbits, lasting for 4 h post treatment. Conclusion: Our work demonstrated that HU-211, incorporated into submicron emulsion, caused a 6-h-long reduction in IOP in the treated eye, with a lesser reduction in the contralateral untreated eye.

IT **112924-45-5**, HU-211
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(a submicron emulsion of HU-211, a synthetic **cannabinoid**, reduces intraocular pressure in rabbits)

RN 112924-45-5 HCAPLUS
CN 6H-Dibenzo[b,d]pyran-9-methanol, 3-(1,1-dimethylheptyl)-6a,7,10,10a-tetrahydro-1-hydroxy-6,6-dimethyl-, (6aS,10aS)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



REFERENCE COUNT: 34 THERE ARE 34 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L56 ANSWER 6 OF 32 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2000:379603 HCAPLUS
DOCUMENT NUMBER: 133:115071
TITLE: Pharmacology of the intraocular pressure (IOP) lowering effect of systemic dexanabinol (HU-211), a **non-psychotropic cannabinoid**
AUTHOR(S): Beilin, Mark; Neumann, Ron; Belkin, Michael; Green, Keith; Bar-Ilan, Amir
CORPORATE SOURCE: Pharmos Corporation, Ltd., Rehovot, Israel
SOURCE: Journal of Ocular Pharmacology and Therapeutics (**2000**), 16(3), 217-230
CODEN: JOPTFU; ISSN: 1080-7683
PUBLISHER: Mary Ann Liebert, Inc.
DOCUMENT TYPE: Journal
LANGUAGE: English

AB The purpose of this study was to characterize the intraocular pressure (IOP) lowering activity and possible mechanism of action of the synthetic, **non-psychotropic cannabinoid** dexanabinol (HU-211) [(+)(3S,4S), 7-hydroxy-Δ-6- **tetrahydrocannabinol** 1, 1 dimethylheptyl], following i.v. administration in the rabbit. IOP (pneumatonometry), aqueous humor inflow rate (fluorophotometry), blood pressure, and heart rate (computerized physiograph system connected to central ear artery cannula) were measured in unanesthetized albino rabbits. I.v. administration of HU-211 resulted in a dose-related reduction in IOP; a maximal IOP reduction of 5.0 ± 0.2 mmHg was observed 4 h after a 0.5 mg/kg dose. No significant changes in blood pressure or heart rate were observed during the first hr following this dose of HU-211. Pupil diameter did not change significantly during the 5 h following the 0.5 mg/kg i.v. dose. No significant change in the rate of aqueous humor inflow occurred during the 6 h after a 0.5 mg/kg dose of HU-211, thereby implicating outflow changes as the major source of IOP reduction IOP reduction by HU-211 following pre-treatment with the α2 adrenergic antagonist, yohimbine (1 mg/kg, i.v.), was only 30% of that of HU-211 alone. IOP reduction following pretreatment with the α2 agonist, clonidine (0.5 mg/kg i.v.), was twice as large as that of HU-211 alone. Pretreatment with the β-adrenergic antagonist, propranolol (0.5 mg/kg i.v.), resulted in a 50% reduction in the IOP-lowering effect of HU-211. In summary, HU-211, administered i.v., is an effective IOP-lowering agent, devoid of any significant side effects (blood pressure, heart rate or pupil diameter, all of which have been reported previously for **cannabinoids**). Involvement of the adrenergic system is indicated in mediating the

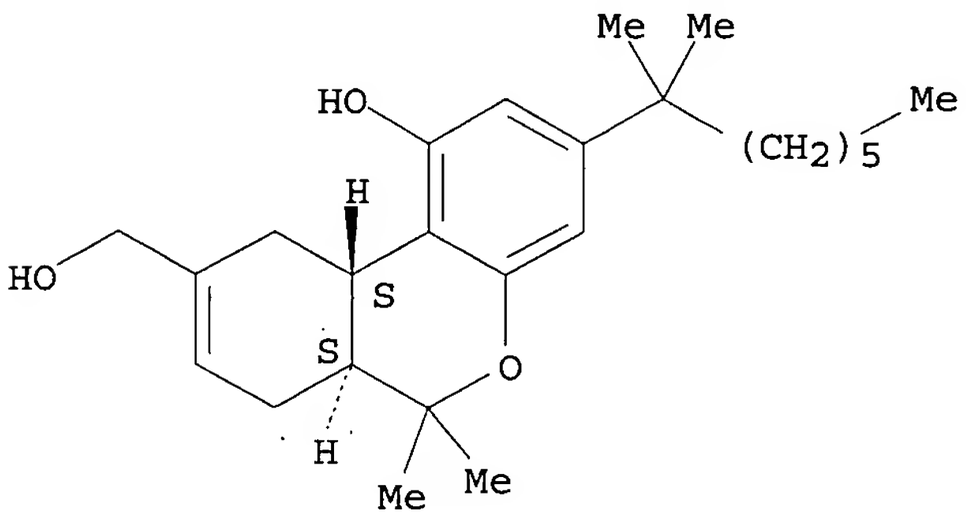
IOP-lowering effects of HU-211 that appear to reflect a change in fluid outflow from the eye.

IT **112924-45-5**, HU-211
RL: ADV (Adverse effect, including toxicity); BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(pharmacol. of intraocular pressure lowering effect of dexanabinol)

RN 112924-45-5 HCAPLUS

CN 6H-Dibenzo[b,d]pyran-9-methanol, 3-(1,1-dimethylheptyl)-6a,7,10,10a-tetrahydro-1-hydroxy-6,6-dimethyl-, (6aS,10aS)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



REFERENCE COUNT: 49 THERE ARE 49 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L56 ANSWER 7 OF 32 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2000:74536 HCAPLUS

DOCUMENT NUMBER: 132:344219

TITLE: Neuroprotective effects of HU-211 on brain damage resulting from soman-induced seizures

AUTHOR(S): Filbert, Margaret G.; Forster, Jeffry S.; Smith, C. Dahlem; Ballough, Gerald P. H.

CORPORATE SOURCE: U.S. Army Medical Research Institute of Chemical Defense, Aberdeen Proving Ground, MD, 21010-5400, USA

SOURCE: Annals of the New York Academy of Sciences (**1999**), 890(Neuroprotective Agents), 505-514
CODEN: ANYAA9; ISSN: 0077-8923

PUBLISHER: New York Academy of Sciences

DOCUMENT TYPE: Journal

LANGUAGE: English

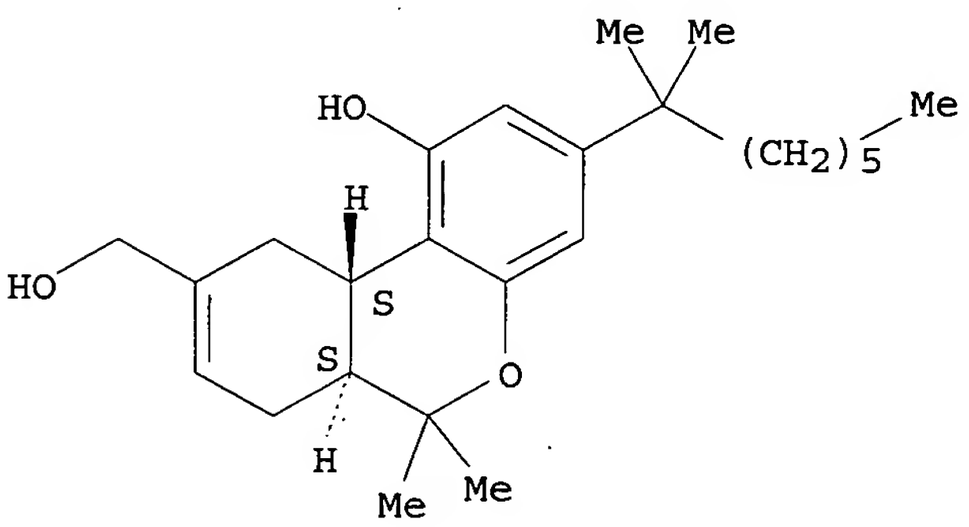
AB The neuroprotective effects of HU-211 (dexanabinol), a synthetic **nonpsychotropic** analog of **tetrahydrocannabinol**, on brain damage resulting from soman-induced seizures were examined in male Sprague-Dawley rats challenged with 1.6 LD50 soman. At 5 or 40 min after onset of seizures, the rats were given an i.p. injection of 25 mg HU-211/kg. All rats that received soman showed electrocorticog. evidence of sustained seizures and status epilepticus for 4-6 h. HU-211 had no effect on either the strength or duration of seizure activity. Administration of HU-211 5 min after seizure onset reduced median lesion volume 86% (as assessed by microtubule-associated protein 2-neg. staining), and when administered 40 min postonset, the reduction in necrosis was 81.5% despite the presence of continuous seizures for 4-5 h. These observations were corroborated by hemotoxylin and eosin histopathol. assessment that showed a significant reduction in piriform cortical neuronal damage in HU-211-treated animals. It is concluded that HU-211 provides considerable

neuroprotection against brain damage produced by soman-induced seizures.

IT **112924-45-5**, HU 211
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(neuroprotective effects of HU-211 on brain damage from soman-induced seizures)

RN 112924-45-5 HCAPLUS
CN 6H-Dibenzo[b,d]pyran-9-methanol, 3-(1,1-dimethylheptyl)-6a,7,10,10a-tetrahydro-1-hydroxy-6,6-dimethyl-, (6aS,10aS)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



REFERENCE COUNT: 25 THERE ARE 25 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L56 ANSWER 8 OF 32 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1999:806942 HCAPLUS
DOCUMENT NUMBER: 132:175690
TITLE: Dexanabinol (HU-211) effect on experimental autoimmune encephalomyelitis: implications for the treatment of acute relapses of multiple sclerosis
AUTHOR(S): Achiron, A.; Miron, S.; Lavie, V.; Margalit, R.; Biegon, A.
CORPORATE SOURCE: Multiple Sclerosis Center, Sheba Medical Center, Tel-Hashomer, Ramat Gan, 52621, Israel
SOURCE: Journal of Neuroimmunology (**2000**), 102(1), 26-31
CODEN: JNRIDW; ISSN: 0165-5728
PUBLISHER: Elsevier Science B.V.
DOCUMENT TYPE: Journal
LANGUAGE: English

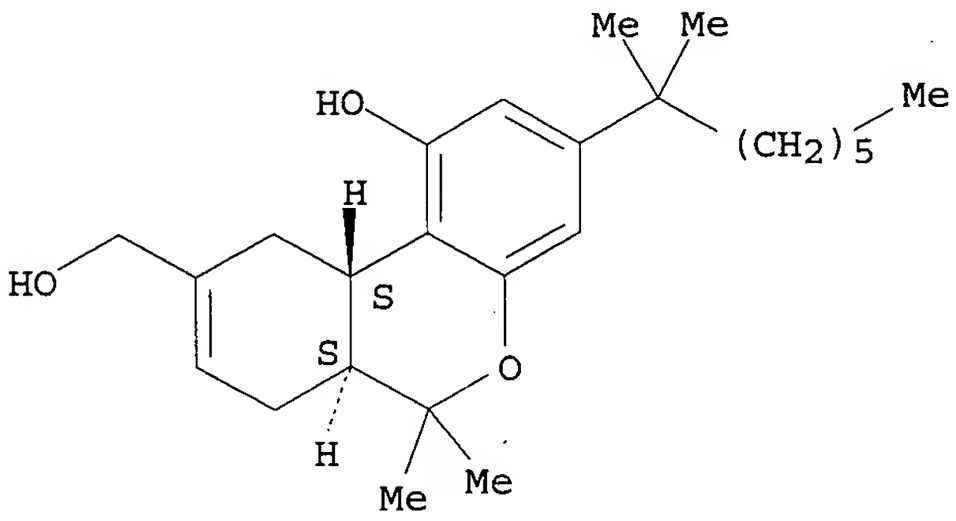
AB Dexanabinol (HU-211) is a synthetic **non-psychotropic cannabinoid** which suppresses TNF-α production in the brain and peripheral blood. The effects of dexanabinol in rat exptl. autoimmune encephalomyelitis (EAE) were studied using different doses, modes of administration and time regimes. Dexanabinol, 5 mg/kg i.v. given once after disease onset (day 10), significantly reduced maximal EAE score. Increasing the dose or treatment duration resulted in further suppression of EAE. Drug administration at earlier phases during disease induction was not effective. Histol. studies supported the clin. findings demonstrating reduction in the inflammatory response in the brain and spinal cord in animals treated with dexanabinol. The results suggest that dexanabinol may provide an alternative mode of treatment for acute exacerbations of multiple sclerosis (MS).

IT **112924-45-5**, HU-211

RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(dexanabinol (HU-211) effect on exptl. autoimmune encephalomyelitis: implications for treatment of acute relapses of multiple sclerosis)

RN 112924-45-5 HCAPLUS
CN 6H-Dibenzo[b,d]pyran-9-methanol, 3-(1,1-dimethylheptyl)-6a,7,10,10a-tetrahydro-1-hydroxy-6,6-dimethyl-, (6aS,10aS)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



REFERENCE COUNT: 27 THERE ARE 27 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L56 ANSWER 9 OF 32 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1999:796665 HCAPLUS
DOCUMENT NUMBER: 132:132238
TITLE: HU-308: a specific agonist for CB2, a peripheral **cannabinoid** receptor
AUTHOR(S): Hanus, L.; Breuer, A.; Tchilibon, S.; Shiloah, S.; Goldenberg, D.; Horowitz, M.; Pertwee, R. G.; Ross, R. A.; Mechoulam, R.; Fride, E.
CORPORATE SOURCE: Department of Medicinal Chemistry and Natural Products, Medical Faculty, Hebrew University, Jerusalem, 91120, Israel
SOURCE: Proceedings of the National Academy of Sciences of the United States of America (**1999**), 96(25), 14228-14233
CODEN: PNASA6; ISSN: 0027-8424
PUBLISHER: National Academy of Sciences
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Two **cannabinoid** receptors have been identified: CB1, present in the central nervous system (CNS) and to a lesser extent in other tissues, and CB2, present outside the CNS, in peripheral organs. There is evidence for the presence of CB2-like receptors in peripheral nerve terminals. We report now that we have synthesized a CB2-specific agonist, code-named HU-308. This **cannabinoid** does not bind to CB1 (Ki > 10 μM), but does so efficiently to CB2 (Ki = 22.7 ± 3.9 nM); it inhibits forskolin-stimulated cAMP production in CB2-transfected cells, but does so much less in CB1-transfected cells. HU-308 shows no activity in mice in a tetrad of behavioral tests, which together have been shown to be specific for **tetrahydrocannabinol** (THC)-type activity in the CNS mediated by CB1. However, HU-308 reduces blood pressure, blocks defecation, and elicits anti-inflammatory and peripheral analgesic activity. The hypotension, the inhibition of defecation, the anti-inflammatory and

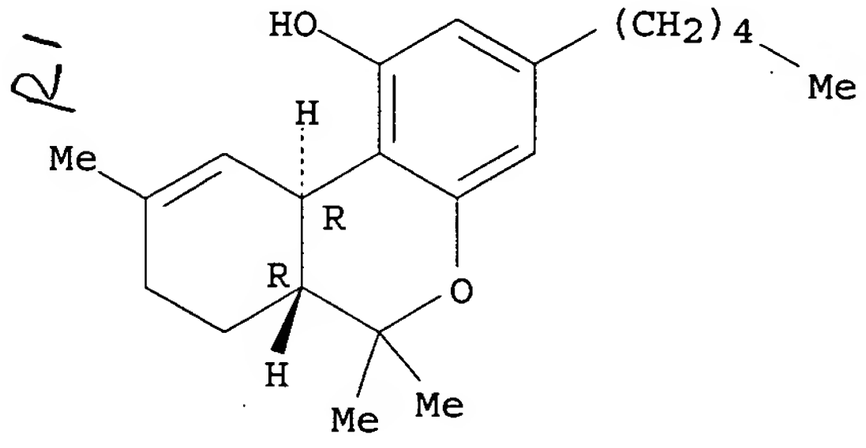
peripheral analgesic effects produced by HU-308 are blocked (or partially blocked) by the CB2 antagonist SR-144528, but not by the CB1 antagonist SR-141716A. These results demonstrate the feasibility of discovering novel **nonpsychotropic cannabinoids** that may lead to new therapies for hypertension, inflammation, and pain.

IT **1972-08-3, Tetrahydrocannabinol**
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(HU-308: a specific agonist for CB2, a peripheral **cannabinoid** receptor)

RN 1972-08-3 HCAPLUS

CN 6H-Dibenzo[b,d]pyran-1-ol, 6a,7,8,10a-tetrahydro-6,6,9-trimethyl-3-pentyl-, (6aR,10aR)- (9CI) (CA INDEX NAME)

Absolute stereochemistry. Rotation (-).



REFERENCE COUNT: 44 THERE ARE 44 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L56 ANSWER 10 OF 32 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1998:708291 HCAPLUS

DOCUMENT NUMBER: 130:133827

TITLE: Δ9 **Tetrahydrocannabinol** and **cannabidiol** alter cytokine production by human immune cells

AUTHOR(S): Srivastava, Maya D.; Srivastava, B. I. S.; Brouhard, B.

CORPORATE SOURCE: Department of Pediatrics, Cleveland Clinic Foundation, Cleveland, OH, 44195, USA

SOURCE: Immunopharmacology (**1998**), 40(3), 179-185
CODEN: IMMUDP; ISSN: 0162-3109

PUBLISHER: Elsevier Science B.V.

DOCUMENT TYPE: Journal

LANGUAGE: English

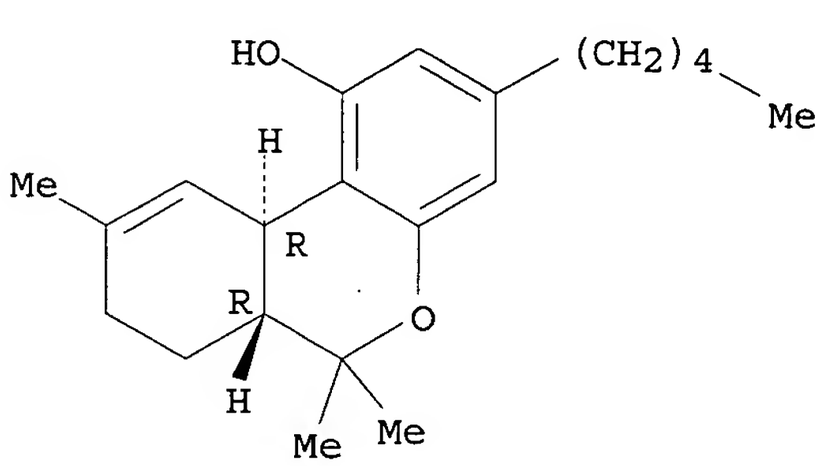
AB Marijuana, a widely abused drug in the US, and its derivs. (**cannabinoids**) have been used in AIDS and cancer patients for treatment of intractable nausea and cachexia. Yet, objective investigations of the effect of **cannabinoids** on the human immune system are few. The authors investigated the effect of Δ9 **tetrahydrocannabinol** (THC) and **cannabidiol** (CBD) on cytokine production in vitro by human leukemic T, B, eosinophilic and CD8+ NK cell lines as models. THC decreased constitutive production of IL-8, MIP-1α, MIP-1β, and RANTES and phorbol ester stimulated production of TNF-α, GM-CSF and IFN-γ by NK cells. It inhibited MIP-1β in HTLV-1 pos. B-cells but tripled IL-8, MIP-1α and MIP-1β in B-cells and MIP-1β in eosinophilic cells but doubled IL-8. Both **cannabinoids** strongly inhibited IL-10 production by HUT-78 T-cells. Results indicate that THC and **nonpsychotropic** CBD have complex lineage and derivative specific effects on cytokines

consistent with previous animal studies. These effects while of potential benefits in some inflammatory/autoimmune diseases may worsen HIV infection, tumorigenesis and allergic inflammation in the lung.

IT **1972-08-3**, Δ9- **Tetrahydrocannabinol**
13956-29-1, **Cannabidiol**
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); BIOL (Biological study)
(Δ9- **tetrahydrocannabinol** and **cannabidiol** alter cytokine production by human immune cells)

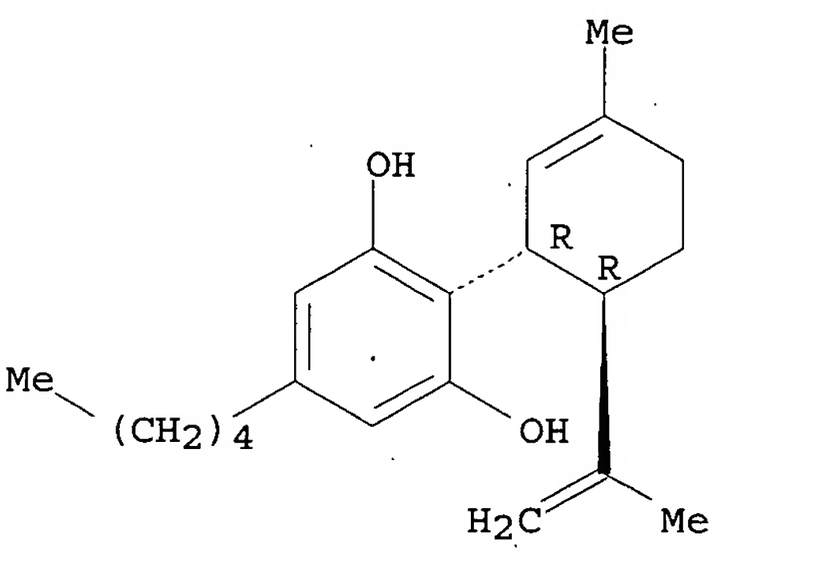
RN 1972-08-3 HCAPLUS
CN 6H-Dibenzo[b,d]pyran-1-ol, 6a,7,8,10a-tetrahydro-6,6,9-trimethyl-3-pentyl-, (6aR,10aR)- (9CI) (CA INDEX NAME)

Absolute stereochemistry. Rotation (-).



RN 13956-29-1 HCAPLUS
CN 1,3-Benzenediol, 2-[(1R,6R)-3-methyl-6-(1-methylethenyl)-2-cyclohexen-1-yl]-5-pentyl- (9CI) (CA INDEX NAME)

Absolute stereochemistry. Rotation (+).



REFERENCE COUNT: 29 THERE ARE 29 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L56 ANSWER 11 OF 32 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1998:460663 HCAPLUS
DOCUMENT NUMBER: 129:184186
TITLE: **Cannabidiol** and (-)-Δ9-**tetrahydrocannabinol** are neuroprotective antioxidants
AUTHOR(S): Hampson, A. J.; Grimaldi, M.; Axelrod, J.; Wink, D.
CORPORATE SOURCE: Laboratory of Cellular and Molecular Regulation, National Institutes of Mental Health, Bethesda, MD, 20892, USA

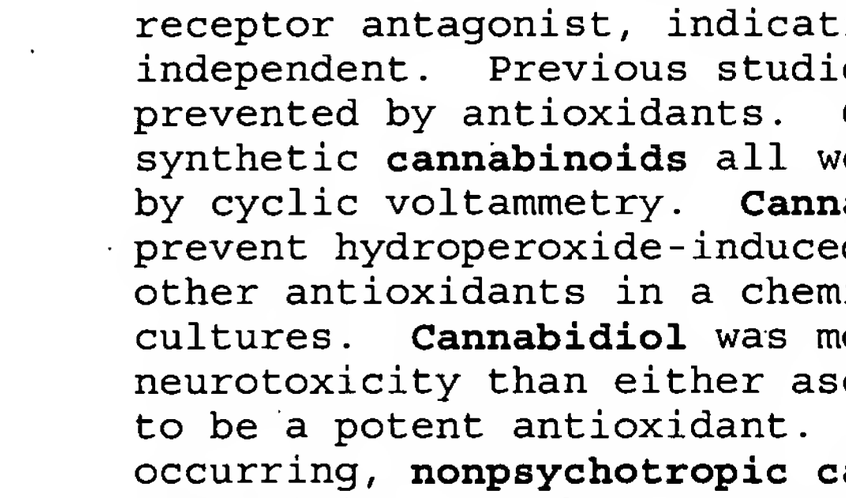
SOURCE: Proceedings of the National Academy of Sciences of the United States of America (**1998**), 95(14), 8268-8273
CODEN: PNASA6; ISSN: 0027-8424
PUBLISHER: National Academy of Sciences
DOCUMENT TYPE: Journal
LANGUAGE: English

AB The neuroprotective actions of **cannabidiol** and other **cannabinoids** were examined in rat cortical neuron cultures exposed to toxic levels of the excitatory neurotransmitter glutamate. Glutamate toxicity was reduced by both **cannabidiol**, a **nonpsychoactive** constituent of marijuana, and the **psychotropic cannabinoid** (-)Δ9-**tetrahydrocannabinol** (THC). **Cannabinoids** protected equally well against neurotoxicity mediated by N-methyl-D-aspartate receptors, 2-amino-3-(4-butyl-3-hydroxyisoxazol-5-yl)propionic acid receptors, or kainate receptors. N-methyl-D-aspartate receptor-induced toxicity has been shown to be calcium dependent; this study demonstrates that 2-amino-3-(4-butyl-3-hydroxyisoxazol-5-yl)propionic acid/kainate receptor-type neurotoxicity is also calcium-dependent, partly mediated by voltage sensitive calcium channels. The neuroprotection observed with **cannabidiol** and THC was unaffected by **cannabinoid** receptor antagonist, indicating it to be **cannabinoid** receptor independent. Previous studies have shown that glutamate toxicity may be prevented by antioxidants. **Cannabidiol**, THC and several synthetic **cannabinoids** all were demonstrated to be antioxidants by cyclic voltammetry. **Cannabidiol** and THC also were shown to prevent hydroperoxide-induced oxidative damage as well as or better than other antioxidants in a chemical (Fenton reaction) system and neuronal cultures. **Cannabidiol** was more protective against glutamate neurotoxicity than either ascorbate or α-tocopherol, indicating it to be a potent antioxidant. These data also suggest that the naturally occurring, **nonpsychotropic cannabinoid**, **cannabidiol**, may be a potentially useful therapeutic agent for the treatment of oxidative neurol. disorders such as cerebral ischemia.

IT **1972-08-3**, (-)-Δ9- **Tetrahydrocannabinol**
13956-29-1, **Cannabidiol**
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); BIOL (Biological study)
(**cannabidiol** and (-)-Δ9- **tetrahydrocannabinol** as neuroprotective antioxidants)

RN 1972-08-3 HCAPLUS
CN 6H-Dibenzo[b,d]pyran-1-ol, 6a,7,8,10a-tetrahydro-6,6,9-trimethyl-3-pentyl-, (6aR,10aR)- (9CI) (CA INDEX NAME)

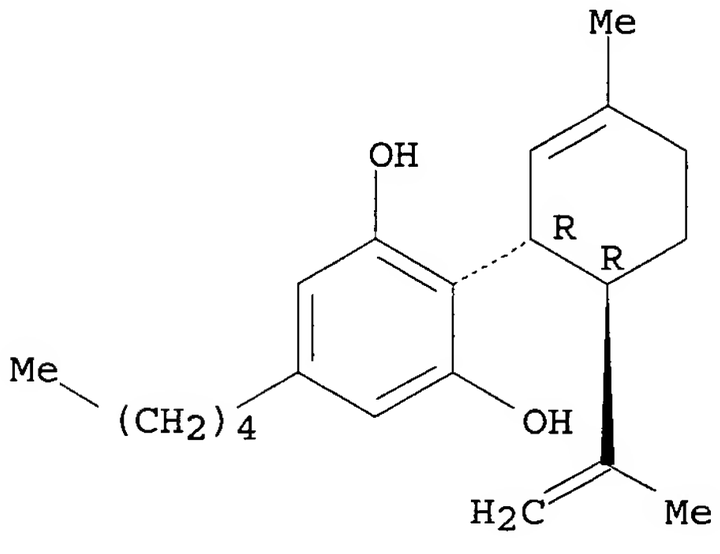
Absolute stereochemistry. Rotation (-).



RN 13956-29-1 HCAPLUS

CN 1,3-Benzenediol, 2-[(1R,6R)-3-methyl-6-(1-methylethenyl)-2-cyclohexen-1-yl]-5-pentyl- (9CI) (CA INDEX NAME)

Absolute stereochemistry. Rotation (+).



REFERENCE COUNT: 29 THERE ARE 29 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L56 ANSWER 12 OF 32 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1997:749546 HCAPLUS
DOCUMENT NUMBER: 128:70533
TITLE: Protection against septic shock and suppression of tumor necrosis factor α and nitric oxide production by dexanabinol (HU-211), a **nonpsychotropic cannabinoid**
AUTHOR(S): Gallily, Ruth; Yamin, Aviva; Waksmann, Yaakov; Ovadia, Haim; Weidenfeld, Joseph; Bar-Joseph, Avi; Biegon, Anat; Mechoulam, Raphael; Shohami, Esther
CORPORATE SOURCE: Department of Immunology, Faculty of Medicine, The Hebrew University, Jerusalem, Israel
SOURCE: Journal of Pharmacology and Experimental Therapeutics (**1997**), 283(2), 918-924
CODEN: JPETAB; ISSN: 0022-3565
PUBLISHER: Williams & Wilkins
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Dexanabinol, HU-211, a synthetic **cannabinoid** devoid of **psychotropic** effects, improves neurol. outcome in models of brain trauma, ischemia and meningitis. Recently, HU-211 was found to inhibit brain tumor necrosis factor (TNFα) production after head injury. In the present study, we demonstrate the ability of HU-211 to suppress TNFα production and to rescue mice and rats from endotoxic shock after LPS (Escherichia coli 055:B5) inoculation. In BALB/c mice, a dose of 10 mg/kg LPS, injected i.p., caused 57% and 100% mortality, at 24 and 48 h, resp. HU-211, administered i.p. 30 min before lipopolysaccharide (LPS), reduced lethality to 9 and 67% at these time points ($P < .05$). When coinjected with D-galactoseamine (i.p.), LPS was 100% lethal within 24 h, whereas eight hourly injections of HU-211 caused mortality of C57BL/6 mice to drop to 10% ($P < .001$). Administration of LPS to Sprague-Dawley rats resulted in a 30% reduction in the mean arterial blood pressure within 30 min, which persisted for 3 h. HU-211, given 2 to 3 min before LPS, completely abolished the typical hypotensive response. Furthermore, the drug also markedly suppressed in vitro TNFα production and nitric oxide generation (by >90%) by both murine peritoneal macrophages and rat alveolar macrophage cell line exposed to LPS. HU-211 may, therefore, have therapeutic implications in the treatment of TNFα-mediated

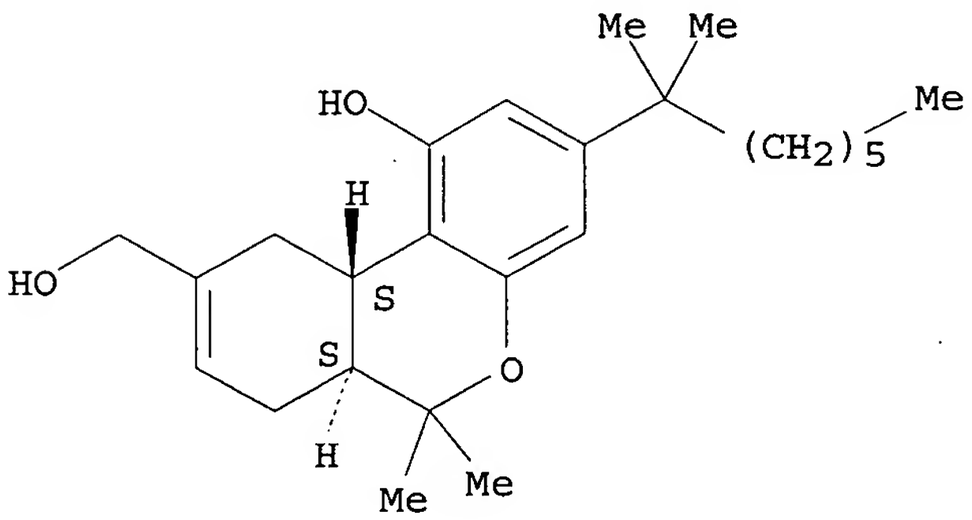
pathologies.

IT **112924-45-5**, Dexanabinol
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(protection against septic shock and suppression of tumor necrosis factor α and nitric oxide production by dexanabinol)

RN 112924-45-5 HCAPLUS

CN 6H-Dibenzo[b,d]pyran-9-methanol, 3-(1,1-dimethylheptyl)-6a,7,10,10a-tetrahydro-1-hydroxy-6,6-dimethyl-, (6aS,10aS)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



REFERENCE COUNT: 47 THERE ARE 47 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L56 ANSWER 13 OF 32 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1997:747199 HCAPLUS
DOCUMENT NUMBER: 128:74980
TITLE: Dimerization of dexanabinol by hydrogen bonding accounts for its hydrophobic character
AUTHOR(S): Pop, Emil; Brewster, Marcus E.
CORPORATE SOURCE: Pharmos Corporation, Alachua, FL, 32615, USA
SOURCE: International Journal of Quantum Chemistry (**1997**), 65(6), 1057-1064
CODEN: IJQCB2; ISSN: 0020-7608
PUBLISHER: John Wiley & Sons, Inc.
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Dexanabinol (I), a dihydroxylated synthetic **cannabinoid**, is a member of the **nonpsychotropic** (+)-3S,4S enantiomeric series. Exptl. evidence suggests that I might form aggregates (e.g., dimers) in which the 2 OH (a phenol and an allylic alc.) groups are involved in H bonding. The extremely low solubility of I in H2O implies that this interaction may not involve solvent mols. A theor. study of this phenomenon in the framework of the PM3 mol. approximation is described. Simple mol. models (PhOH and 1-cyclohexene-1-methanol) were initially examined, followed by extension of the calcns. to I. I dimers resulting from H bonding are more stable than the isolated mols., with the differences attributed to H-bonding energies. The phenolic hydroxy group of 1 mol. forms an H bond with the allylic OH group of the 2nd mol. and vice versa, resulting in dimers containing 2 H bonds. The H bonds are more stable (6.14 kcal/mol) and the complex formed is more favored energetically when the phenol groups act as H-bond donors and the allylic OH groups as acceptors. These interactions are also energetically more favored than those between I and H2O (3.70 kcal/mol). The I dimer showed a lower dipole moment than

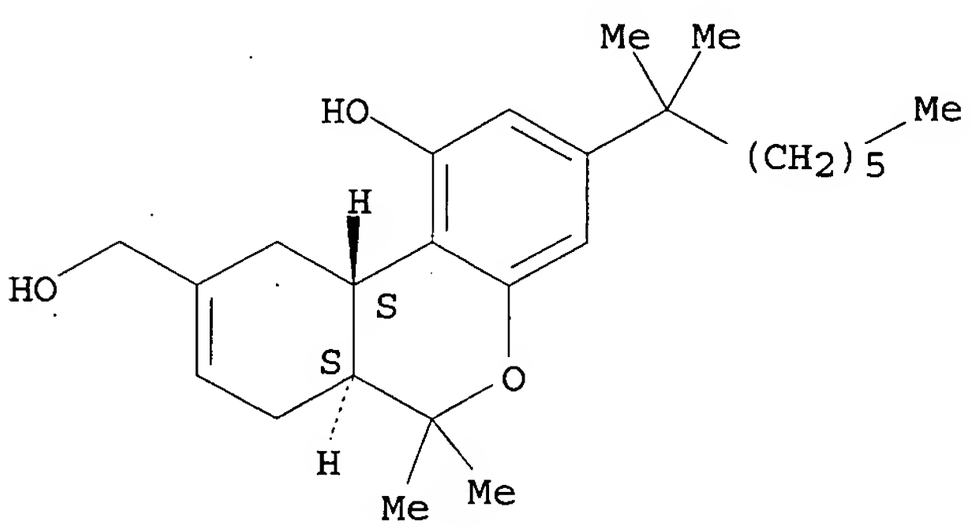
the monomer (1.211 vs. 2.221 D) as well as a much larger log P (11.16 vs. 5.90), indicating strong hydrophobic character. The optimized structure shows that the OH groups involved in H bonds are oriented toward the interior of the dimers, while the lipophilic side chains are oriented toward the exterior. These properties of the dimer may explain the low water solubility of I.

IT **112924-45-5**, Dexanabinol
RL: PRP (Properties)
(monomer and hydrogen-bonded dimer; dimerization of dexanabinol by hydrogen bonding in relation to hydrophobicity)

RN 112924-45-5 HCAPLUS

CN 6H-Dibenzo[b,d]pyran-9-methanol, 3-(1,1-dimethylheptyl)-6a,7,10,10a-tetrahydro-1-hydroxy-6,6-dimethyl-, (6aS,10aS)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



REFERENCE COUNT: 14 THERE ARE 14 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L56 ANSWER 14 OF 32 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1997:709388 HCAPLUS
DOCUMENT NUMBER: 128:2351
TITLE: Oxidative stress in closed-head injury: Brain antioxidant capacity as an indicator of functional outcome
AUTHOR(S): Shohami, Esther; Beit-Yannai, Elie; Horowitz, Michal; Kohen, Ron
CORPORATE SOURCE: Departments of Pharmacology, Pharmaceuticals and Physiology, Schools of Pharmacy and Medicine, Hebrew University, Jerusalem, Israel
SOURCE: Journal of Cerebral Blood Flow and Metabolism (**1997**), 17(10), 1007-1019
CODEN: JCBMDN; ISSN: 0271-678X
PUBLISHER: Lippincott-Raven
DOCUMENT TYPE: Journal; General Review
LANGUAGE: English

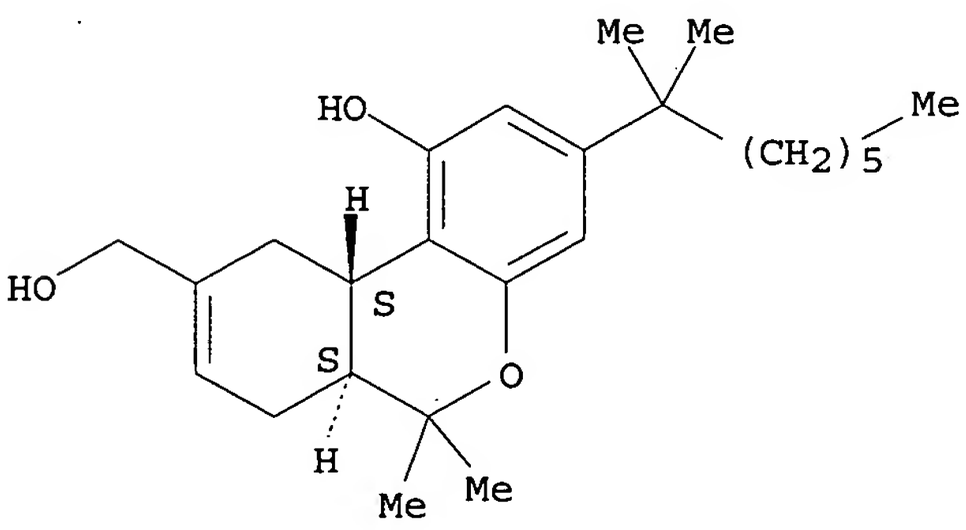
AB A review, with 106 refs. It has been suggested that reactive oxygen species (ROS) play a role in the pathophysiol. of brain damage. A number of therapeutic approaches, based on scavenging these radicals, have been attempted both in exptl. models and in the clin. setting. In an exptl. rat and mouse model of closed-heady injury (CHI), we have studied the total tissue nonenzymic antioxidant capacity to combat ROS. A major mechanism for neutralizing ROS uses endogenous low-mol. weight antioxidants (LMWA). This review deals with the source and nature of ROS in the brain, along with the endogenous defense mechanisms that fight ROS. Special emphasis is placed on LMWA such as ascorbate, urate, tocopherol, lipoic

acid, and histidine-related compds. A novel electrochem. method, using cyclic voltammetry for the determination of total tissue LMWA, is described. The temporal changes in brain LMWA after CHI, as part of the response of the tissue to high ROS levels, and the correlation between the ability of the brain to elevate LMWA and clin. outcome are addressed. We relate to the beneficial effects observed in heat-acclimated rats and the detrimental effects of injury found in apolipoprotein E-deficient mice. Finally, we summarize the effects of cerebroprotective pharmacol. agents including the iron chelator desferal, superoxide dismutase, a stable radical from the nitroxide family, and HU-211, a **nonpsychotropic cannabinoid** with antioxidant properties. We conclude that ROS play a key role in the pathophysiol. of brain injury, and that their neutralization by endogenous or exogenous antioxidants has a protective effect. It is suggested, therefore, that the brain responds to ROS by increasing LMWA, and that the degree of this response is correlated with clin. recovery. The greater the response, the more favorable the outcome.

IT **112924-45-5**, HU-211
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(oxidative stress and brain antioxidant capacity as indicator of functional outcome in closed-head injury)

RN 112924-45-5 HCAPLUS
CN 6H-Dibenzo[b,d]pyran-9-methanol, 3-(1,1-dimethylheptyl)-6a,7,10,10a-tetrahydro-1-hydroxy-6,6-dimethyl-, (6aS,10aS)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

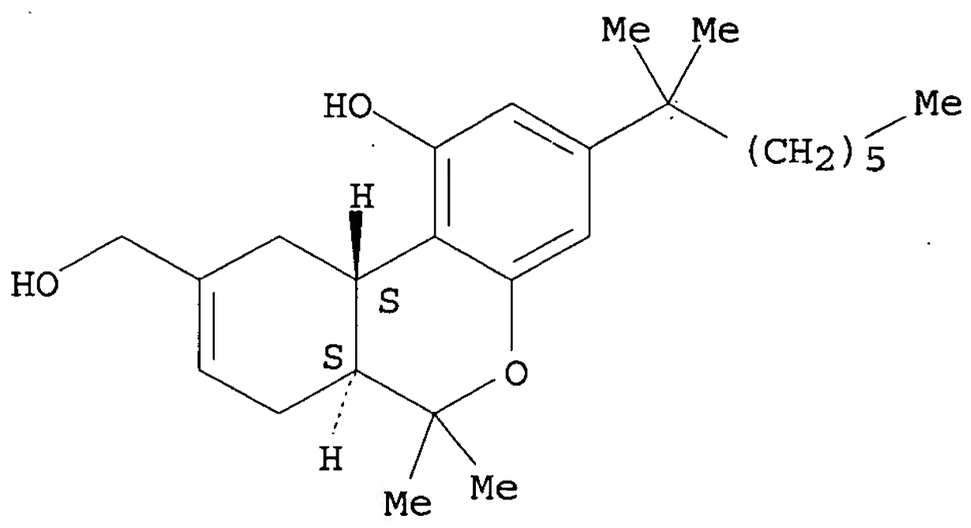


REFERENCE COUNT: 106 THERE ARE 106 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L56 ANSWER 15 OF 32 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1997:610131 HCAPLUS
DOCUMENT NUMBER: 127:242793
TITLE: Clinical pharmacokinetics of escalating i.v. doses of dexanabinol (HU-211), a neuroprotectant agent, in normal volunteers
AUTHOR(S): Brewster, M. E.; Pop, E.; Foltz, R. L.; Reuschel, S.; Griffith, W.; Amselem, S.; Biegon, A.
CORPORATE SOURCE: Pharmos Corporation, Alachua, FL, USA
SOURCE: International Journal of Clinical Pharmacology and Therapeutics (**1997**), 35(9), 361-365
CODEN: ICTHEK; ISSN: 0946-1965
PUBLISHER: Dustri-Verlag Dr. Karl Feistle

DOCUMENT TYPE: Journal
LANGUAGE: English
AB The pharmacokinetics of dexanabinol (HU-211), a synthetic, **nonpsychotropic cannabinoid** with neuroprotectant action, was evaluated administering i.v. doses of 48, 100, and 200 mg. All administrations were well tolerated. The elimination of HU-211 was best fitted to a 3-compartment model with a rapid distribution half-life (<5 min), an intermediate phase half-life of approx. 90 min, and a slow terminal elimination half-life (9 h). The pharmacokinetics were linear over the evaluated dose range. The plasma clearance was high (1.7 L/min), and the volume of distribution was approx. 15 L/kg.
IT **112924-45-5**, Dexanabinol
RL: BAC (Biological activity or effector, except adverse); BPR (Biological process); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)
(HU-211; clin. pharmacokinetics of escalating i.v. doses)
RN 112924-45-5 HCAPLUS
CN 6H-Dibenzo[b,d]pyran-9-methanol, 3-(1,1-dimethylheptyl)-6a,7,10,10a-tetrahydro-1-hydroxy-6,6-dimethyl-, (6aS,10aS)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

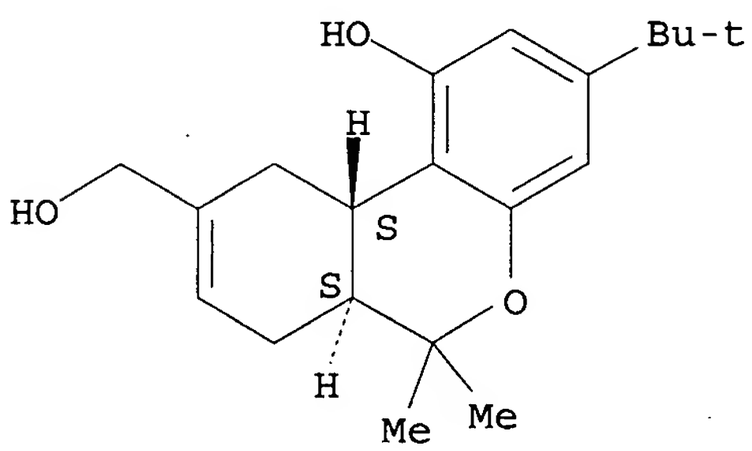


L56 ANSWER 16 OF 32 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1996:466532 HCAPLUS
DOCUMENT NUMBER: 125:168374
TITLE: Neuroprotective (+)-3S,4S-**cannabinoids** with modified 5'-side chain
AUTHOR(S): Pop, Emil; Browne, Clinton E.; Nadler, Varda; Biegon, Anat; Brewster, Marcus E.
CORPORATE SOURCE: Pharmos Corporation, Alachua, FL, 32615, USA
SOURCE: Bioorganic & Medicinal Chemistry Letters (**1996**), 6(13), 1553-1558
CODEN: BMCLE8; ISSN: 0960-894X
PUBLISHER: Elsevier
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 125:168374
AB The synthesis and evaluation of two novel **cannabinoids** belonging to the (+)-3S,4S **nonpsychotropic** series are described. These derivs. bind to the NMDA receptor but have lower affinities than dexanabinol (HU-211), the series benchmark. The novel compds. protect neurons against NMDA-induced toxicity in cortical cell cultures and have lower toxicity to host neurons than dexanabinol.
IT **180415-80-9P**
RL: BAC (Biological activity or effector, except adverse); BSU (Biological

study, unclassified); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation)
(preparation of neuroprotective **cannabinoids** with modified side chain as NMDA receptor inhibitors)

RN 180415-80-9 HCAPLUS
CN 6H-Dibenzo[b,d]pyran-9-methanol, 3-(1,1-dimethylethyl)-6a,7,10,10a-tetrahydro-1-hydroxy-6,6-dimethyl-, (6aS,10aS)- (9CI) (CA INDEX NAME)

Absolute stereochemistry. Rotation (+).



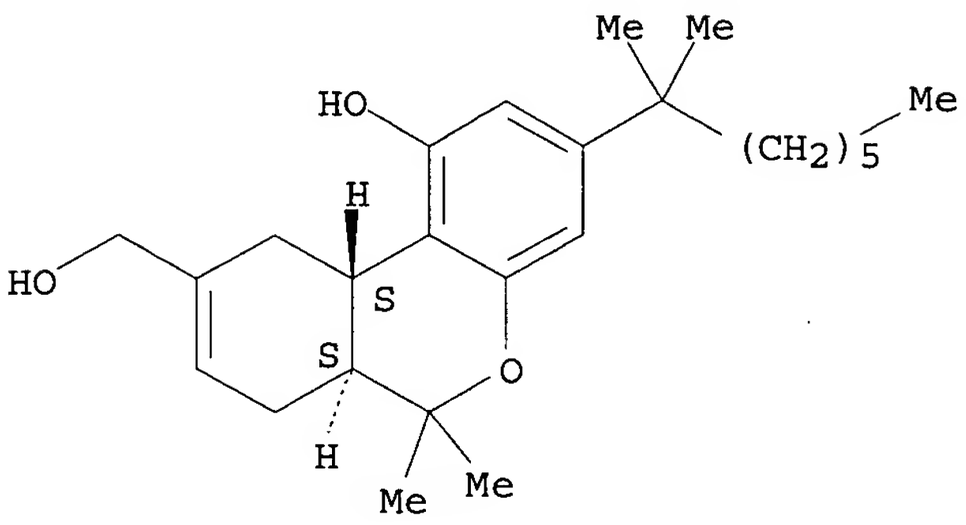
L56 ANSWER 17 OF 32 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1996:183947 HCAPLUS
DOCUMENT NUMBER: 124:250801
TITLE: A novel **nonpsychotropic cannabinoid**, HU-211, in the treatment of experimental pneumococcal meningitis
AUTHOR(S): Bass, Roman; Engelhard, Dan; Trembovler, Victoria; Shohami, Esther
CORPORATE SOURCE: Departments Pharmacology and Pediatrics, Hebrew University, Jerusalem, 91120, Israel
SOURCE: Journal of Infectious Diseases (**1996**), 173(3), 735-8
CODEN: JIDIAQ; ISSN: 0022-1899
PUBLISHER: University of Chicago Press
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Typical features of pneumococcal meningitis have been demonstrated in rats inoculated with Streptococcus pneumoniae. HU-211, a novel noncompetitive N-methyl-D-aspartate antagonist recently demonstrated to inhibit tumor necrosis factor-α production under various conditions, improves recovery in some exptl. models of brain injury. The present study tested the efficacy of HU-211 in combination with antimicrobial therapy in reducing brain damage in exptl. pneumococcal meningitis. S. pneumoniae-infected rats were treated with saline alone, ceftriaxone alone, or with a combination of ceftriaxone and HU-211 18 h after inoculation of the bacteria. Brain edema and blood-brain barrier impairment 48 h after infection were significantly ($P < .05$) reduced in rats treated with ceftriaxone-HU-211 compared with rats in other treatment groups. The results suggest that HU-211 when given concomitantly with antibiotics attenuates brain damage in the rat model of pneumococcal meningitis.

IT **112924-45-5**, HU-211
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(treatment of exptl. pneumococcal meningitis with **nonpsychotropic cannabinoid** HU-211)

RN 112924-45-5 HCAPLUS
CN 6H-Dibenzo[b,d]pyran-9-methanol, 3-(1,1-dimethylheptyl)-6a,7,10,10a-tetrahydro-1-hydroxy-6,6-dimethyl-, (6aS,10aS)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



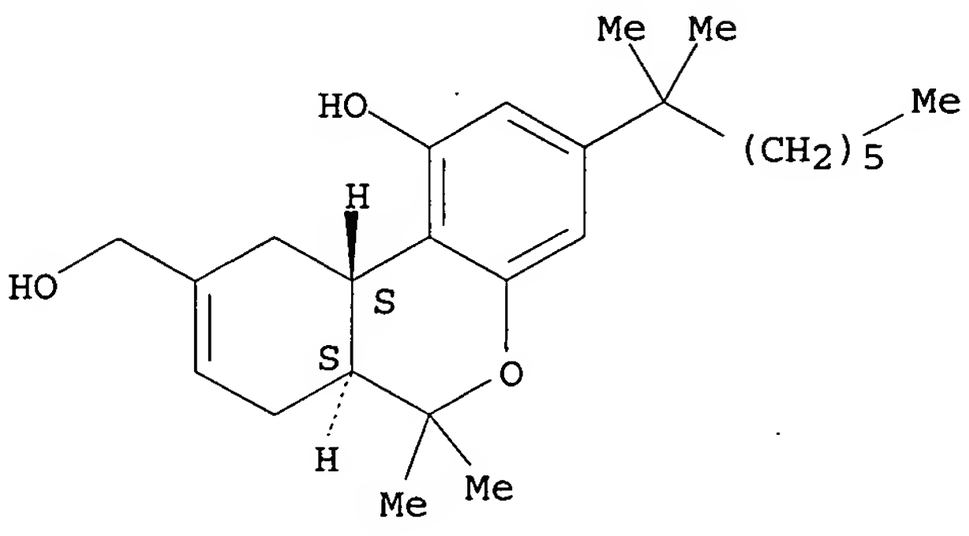
L56 ANSWER 18 OF 32 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1996:111999 HCAPLUS
DOCUMENT NUMBER: 124:220236
TITLE: Derivatives of dexanabinol. I. Water-soluble salts of glycinate esters
AUTHOR(S): Pop, Emil; Liu, Zong Zheng; Brewster, Marcus E.; Barenholz, Yechezkel; Korablyov, Veronica; Mechoulam, Raphael; Nadler, Varda; Biegon, Anat
CORPORATE SOURCE: Pharmos Corporation, Alachua, FL, 32615, USA
SOURCE: Pharmaceutical Research (**1996**), 13(1), 62-9
CODEN: PHREEB; ISSN: 0724-8741
PUBLISHER: Plenum
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Glycinate ester-type water soluble derivs. of dexanabinol(HU-211)(I) a **non-psychotropic cannabinoid** with potential use in the treatment of brain damage were synthesized and evaluated as prodrugs or congeners. Conventional procedures were used for the synthesis of the novel derivs. Stability studies in water and blood (rat, dog, human) were performed by HPLC; NMDA receptor binding was determined by radio ligand [3H] MK-801-displacement; the neuroprotection and neurotoxicity studies were performed in cortical cell cultures. Glycinate, dimethylamine, diethylamine, trimethylammonium and triethylammonium acetates of I were synthesized. All compds. were relatively soluble and stable in water. The quaternary ammonium salt-type derivs. rapidly hydrolyzed to the parent drug in various types of blood including human. In vitro activity studies indicated that the novel derivs. possess NMDA receptor binding properties. The neuroprotecting properties manifested by some of the new derivs. were associated with very low neuronal cell toxicity and are credited to parent compound released by hydrolysis during the expts. rather than to intrinsic activity. The trimethylammonium and triethylammonium acetates of I are promising water-soluble prodrug candidates for I; the glycinate ester might be used as an active analog.

IT **112924-45-5**, Dexanabinol
RL: BSU (Biological study, unclassified); MFM (Metabolic formation); PRP (Properties); RCT (Reactant); BIOL (Biological study); FORM (Formation, nonpreparative); RACT (Reactant or reagent)
(preparation of water-soluble salts of glycinate esters of dexanabinol as prodrugs with neuroprotectant and NMDA receptor-antagonist activity)
RN 112924-45-5 HCAPLUS
CN 6H-Dibenzo[b,d]pyran-9-methanol, 3-(1,1-dimethylheptyl)-6a,7,10,10a-

tetrahydro-1-hydroxy-6,6-dimethyl-, (6aS,10aS)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



L56 ANSWER 19 OF 32 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1996:68712 HCAPLUS

DOCUMENT NUMBER: 124:165086

TITLE: HU-211, a novel noncompetitive N-methyl-D-aspartate antagonist, improves neurological deficit and reduces infarct volume after reversible focal cerebral ischemia in the rat

AUTHOR(S): Belayev, Ludmila; Busto, Raul; Zhao, Weizhao; Ginsberg, Myron D.

CORPORATE SOURCE: School Medicine, University Miami, Miami, FL, 33101, USA

SOURCE: Stroke (Dallas) (**1995**), 26(12), 2313-20
CODEN: SJCCA7; ISSN: 0039-2499

PUBLISHER: American Heart Association

DOCUMENT TYPE: Journal

LANGUAGE: English

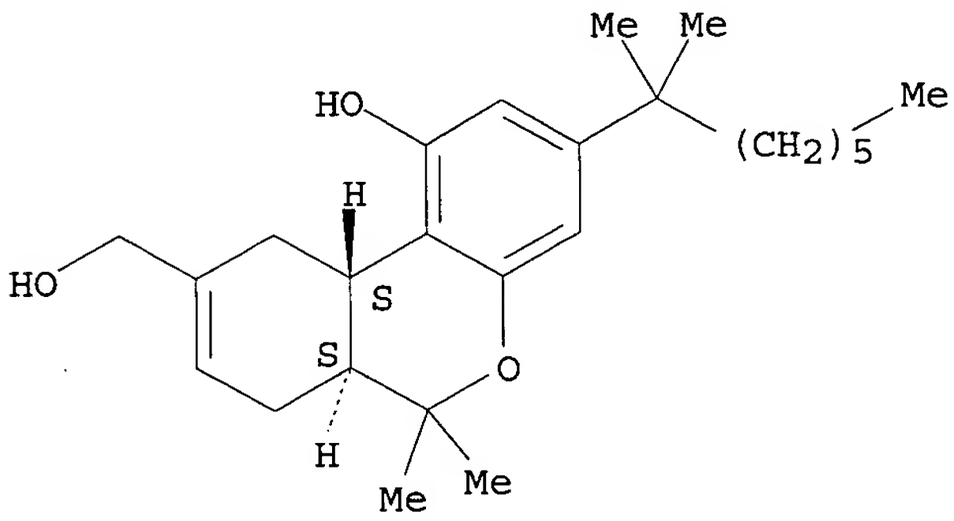
AB HU-211 is a **nonpsychotropic cannabinoid** analog that has been shown to act as a functional N-methyl-D-aspartate receptor blocker. The authors investigated the neuroprotective efficacy of HU-211 in a model of reversible middle cerebral artery occlusion (MCAo) in rats. Male Wistar rats were anesthetized with halothane and subjected to 90 min of temporary MCAo by retrograde insertion of an intraluminal nylon suture, coated with poly-L-lysine, through the external carotid artery into the internal carotid artery and MCAo. The drug (HU-211 in cosolvent, 4 mg/kg IV) or vehicle was administered in a blinded fashion 70 min after onset of MCAo. Behavioral tests were evaluated during occlusion (60 min) and for a 3-day period after MCAo. Three days after MCAo, brains were perfusion-fixed, and infarct vols. were determined HU-211 significantly improved the neurol. score compared with vehicle during the 3 days after MCAo. Treatment with HU-211 also significantly reduced both infarct volume (66.6 vs. 149.8 mm3) and brain swelling (2.61% vs. 6.66%) compared with vehicle-treated rats (in each group). These results demonstrate the neuroprotective ability of HU-211 in focal cerebral ischemia as judged by neurol. score, infarct size, and brain swelling. Reversible MCAo with the use of a poly-L-lysine-coated intraluminal suture proved to be a reliable and effective modification of this technique, yielding consistent results.

IT **112924-45-5**, HU-211
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(novel noncompetitive methyl-D-aspartate antagonist HU-211 improves

neurol. deficit and reduces infarct volume after reversible focal cerebral ischemia in rat induced with poly-L-lysine intraluminal suture)

RN 112924-45-5 HCAPLUS
CN 6H-Dibenzo[b,d]pyran-9-methanol, 3-(1,1-dimethylheptyl)-6a,7,10,10a-tetrahydro-1-hydroxy-6,6-dimethyl-, (6aS,10aS)- (9CI). (CA INDEX NAME)

Absolute stereochemistry.



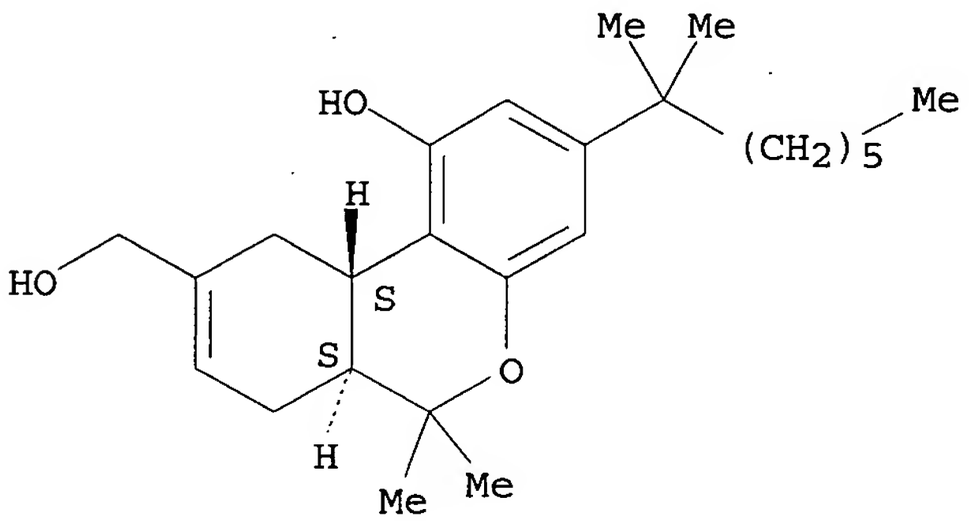
L56 ANSWER 20 OF 32 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1995:988808 HCAPLUS
DOCUMENT NUMBER: 124:76318
TITLE: Post-ischemic administration of HU-211, a novel non-competitive NMDA antagonist, protects against blood-brain barrier disruption in photochemical cortical infarction in rats: a quantitative study
AUTHOR(S): Belayev, Ludmila; Busto, Raul; Watson, Brant D.; Ginsberg, Myron D.
CORPORATE SOURCE: Cerebral Vascular Disease Research Center, Department of Neurology (D4-5), University of Miami School of Medicine, PO Box 016960, Miami, FL, 33101, USA
SOURCE: Brain Research (**1995**), 702(1,2), 266-70
CODEN: BRREAP; ISSN: 0006-8993
PUBLISHER: Elsevier
DOCUMENT TYPE: Journal
LANGUAGE: English
AB We examined the effect of HU-211, a synthetic **non-psychotropic cannabinoid** with non-competitive N-methyl-D-aspartate (NMDA) antagonist properties, on blood-brain barrier (BBB) integrity after photochem. induced cortical infarction. Evans blue dye was used as a BBB permeability indicator after unilateral thrombotic cortical infarction was produced photochem. by 560 nm light irradiation of the cortex in male Wistar rats receiving rose bengal i.v. HU-211 was injected in a dose of 4 mg/kg i.v. 30 min after stroke. Fluorometric measurement of Evans blue was performed 24 h later in six brain regions. Treatment with HU-211 significantly decreased extravasation of dye into the area of infarct (406±19 vs. 539±33 μg/g, mean±S.E.M.) as well as other sites of the affected hemisphere (866±68 vs. 1096±68 μg/g) compared to the vehicle group. These data indicate that HU-211 is an effective drug in protecting against the effects of focal ischemia-induced BBB disruption in the rat and suggest that the drug may be an effective treatment against the ischemic cell death and BBB disruption that can occur clin. following a stroke or cardiac arrest.
IT **112924-45-5**, HU-211
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)

(NMDA antagonist HU-211 protection against ischemia-induced blood-brain barrier disruption)

RN 112924-45-5 HCAPLUS

CN 6H-Dibenzo[b,d]pyran-9-methanol, 3-(1,1-dimethylheptyl)-6a,7,10,10a-tetrahydro-1-hydroxy-6,6-dimethyl-, (6aS,10aS)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



L56 ANSWER 21 OF 32 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1995:709346 HCAPLUS

DOCUMENT NUMBER: 123:102677

TITLE: HU-211, a **nonpsychotropic cannabinoid**, improves neurological signs and reduces brain damage after severe forebrain ischemia in rats

AUTHOR(S): Belayev, Ludmila; Bar-Joseph, Avi; Adamchik, Jana; Biegon, Anat

CORPORATE SOURCE: Department Pharmacology, Pharmos Corp., Rehovot, 76326, Israel

SOURCE: Molecular and Chemical Neuropathology (**1995**), 25(1), 19-33
CODEN: MCHNEM; ISSN: 1044-7393

PUBLISHER: Humana

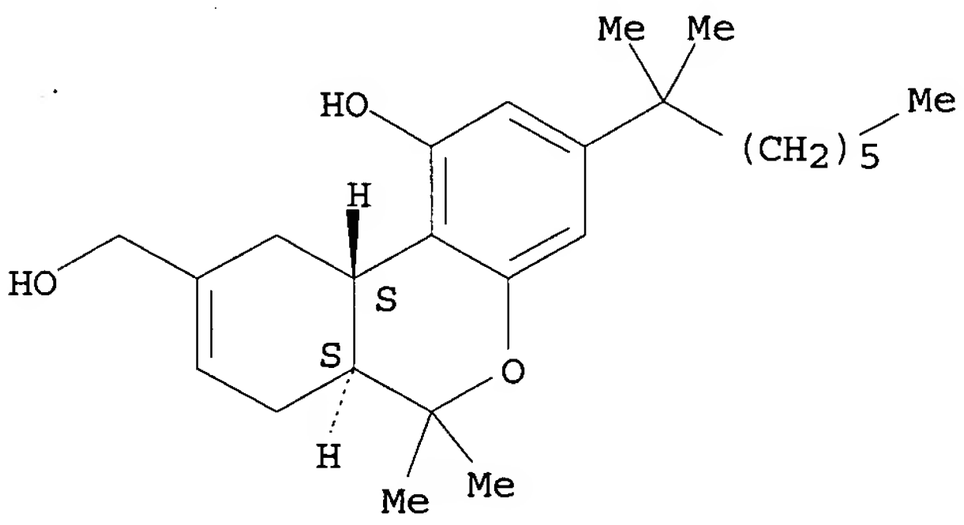
DOCUMENT TYPE: Journal

LANGUAGE: English

AB The purpose of the present study was to examine the dose-response relationship and the therapeutic time window for the synthetic **nonpsychotropic cannabinoid** (HU-211) as a neuroprotective agent in transient, severe forebrain ischemia in the rat. Adult Sprague-Dawley rats were subjected to 20 min common carotid artery occlusion (CCAo) 24 h after coagulation of both vertebral arteries. Thirty minutes after the onset of CCAo, rats received an i.v. injection of HU-211 2, 4, or 8 mg/kg in HPCD (n = 12, 18, and 11, resp.), or the appropriate vehicle (n = 20). Neurol. signs were scored daily for 3 d following ischemia. A significant improvement ($p < 0.01$, Kruskal-Wallis nonparametric test, followed by Mann-Whitney U-test, $p < 0.05$) of neurol. deficits by the 4 mg/kg dose of HU-211, was observed 24, 48, and 72 h after insult. On the third day post-CCAo, the rat brain was taken for histopathol. evaluation of the CA-1 sector of the hippocampus. Counts of viable neurons in the hippocampal CA1 field showed significantly more live cells in the HU-211 (4 mg/kg) treated animals ($P < 0.001$, ANOVA followed by Duncan's post-hoc test, $p < 0.05$). The drug was equally effective when given 30 and 60 min after ischemia, but neuroprotection was no longer significant after 3 h. We suggest that HU-211 may be a potential treatment for postischemic brain damage in human beings.

IT **112924-45-5**, HU-211
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(**nonpsychotropic cannabinoid** HU-211 improves neurol. signs and reduces brain damage after forebrain ischemia)
RN 112924-45-5 HCAPLUS
CN 6H-Dibenzo[b,d]pyran-9-methanol, 3-(1,1-dimethylheptyl)-6a,7,10,10a-tetrahydro-1-hydroxy-6,6-dimethyl-, (6aS,10aS)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



L56 ANSWER 22 OF 32 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1995:413714 HCAPLUS
DOCUMENT NUMBER: 122:205007
TITLE: Long-term effect of HU-211, a novel non-competitive NMDA antagonist, on motor and memory functions after closed head injury in the rat
AUTHOR(S): Shohami, Esther; Novikov, Mark; Bass, Roman
CORPORATE SOURCE: Department of Pharmacology, The Hebrew University School of Pharmacy, Jerusalem, Israel
SOURCE: Brain Research (**1995**), 674(1), 55-62
CODEN: BRREAP; ISSN: 0006-8993
PUBLISHER: Elsevier
DOCUMENT TYPE: Journal
LANGUAGE: English
AB HU-211 is a synthetic, **non-psychotropic cannabinoid** which acts as a non-competitive NMDA antagonist and antioxidant. We studied the drug's therapeutic window as well as its long-term effect on cognitive and motor functions in a model of closed head injury (CHI) in the rat. A weight-drop device was used to induce CHI in ether anesthetized male rats. HU-211 (5 mg/kg) was administered i.v. to the exptl. groups. For the therapeutic window study, drug was injected at 4 or 6 h after CHI. Edema (water content) and clin. status (neurol. severity score, NSS) were evaluated at 24 h. Reduction of edema was slight, whereas improvement of NSS was significant when the drug was administered at 4 or 6 h ($P = 0.0023$ and 0.059, resp.). To determine the drug's long-term effect, it was administered 1 h after CHI and addnl. doses were later given. NSS was evaluated for a period of 30 d. A single dose of HU-211 given 1 h post-CHI improved the clin. outcome during the 30 d period ($P<0.01$). Repetitive doses of HU-211 injected during the post traumatic period had similar effects. Cognitive functions were evaluated in the Morris water maze, with rats trained either before or after CHI. CHI resulted in a highly significant impairment of these abilities, whereas HU-211 treatment 1 h after CHI improved performance. Our results indicate

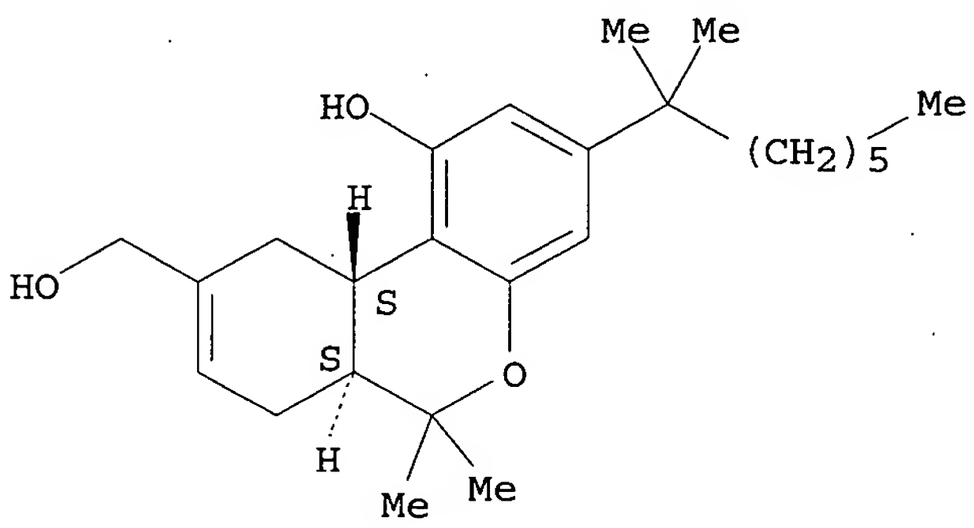
that HU-211 is a potent cerebroprotective agent, with a therapeutic window of about 4 h. The beneficial response obtained even after a single dose was long lasting, and ameliorated impairment of both motor and cognitive functions following CHI.

IT **112924-45-5**, HU-211
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(long-term effect of NMDA antagonist HU-211 on motor and memory functions after closed head injury)

RN 112924-45-5 HCAPLUS

CN 6H-Dibenzo[b,d]pyran-9-methanol, 3-(1,1-dimethylheptyl)-6a,7,10,10a-tetrahydro-1-hydroxy-6,6-dimethyl-, (6aS,10aS)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



L56 ANSWER 23 OF 32 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1995:390030 HCAPLUS
DOCUMENT NUMBER: 122:178176
TITLE: Neuroprotective activity of HU-211, a novel NMDA antagonist, in global ischemia in gerbils
AUTHOR(S): Bar-Joseph, Avi; Berkovitch, Yafit; Adamchik, Jana; Biegon, Anat
CORPORATE SOURCE: Pharmos Corp, Rehovot, 76326, Israel
SOURCE: Molecular and Chemical Neuropathology (**1994**), 23(2/3), 125-35
CODEN: MCHNEM; ISSN: 1044-7393
DOCUMENT TYPE: Journal
LANGUAGE: English

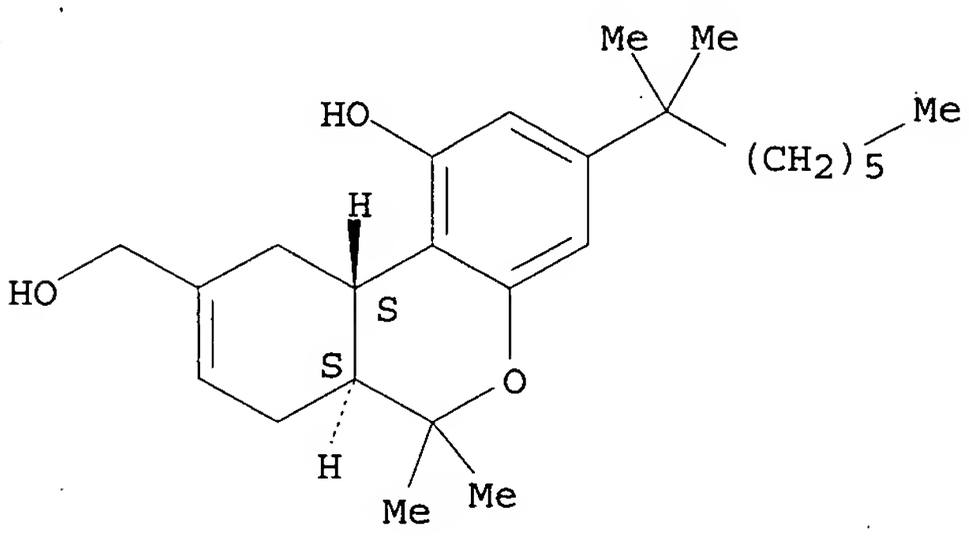
AB HU-211, a **nonpsychotropic cannabinoid** and a noncompetitive NMDA antagonist, was tested in a global ischemia model in the Mongolian gerbil. Male Mongolian gerbils underwent a 10-min bilateral common carotid artery occlusion. HU-211, administered i.v. at 4 mg/kg, 30 min postischemia, induced significant neuroprotection of the CA1 subfield of the hippocampus. A dose-response study demonstrated an inverted U curve in which the 4 mg/kg dose induced the best neuroprotection in the CA1 subfield of the hippocampus ($p < 0.05$ ANOVA followed by Duncan's post-hoc test). The therapeutic window was then investigated, and in another study, HU-211 4 mg/kg were administered i.v. at 30, 60, 120, and 180 min postinsult. A significant neuroprotection was detected at 30 and 60 min administration postinsult.

IT **112924-45-5**, HU-211
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(neuroprotective activity of HU-211 in global ischemia)

RN 112924-45-5 HCAPLUS

CN 6H-Dibenzo[b,d]pyran-9-methanol, 3-(1,1-dimethylheptyl)-6a,7,10,10a-tetrahydro-1-hydroxy-6,6-dimethyl-, (6aS,10aS)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

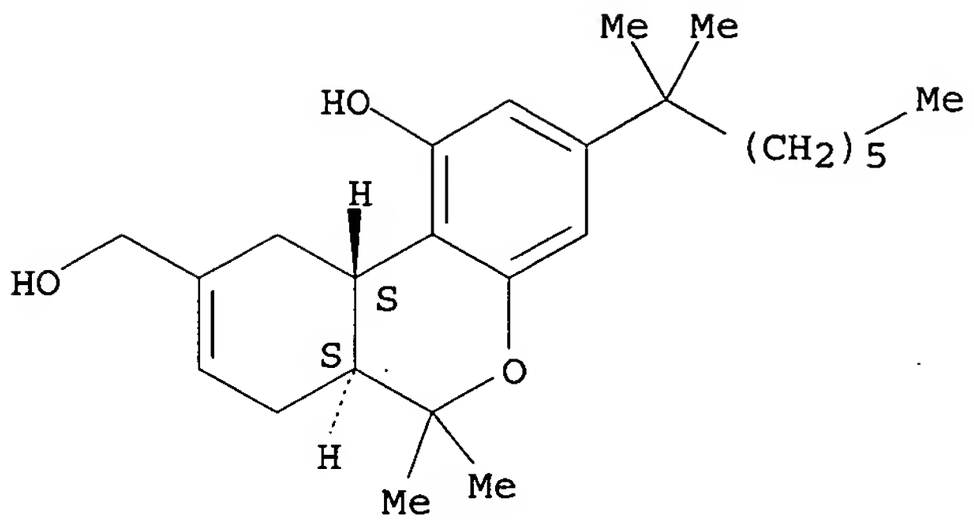


L56 ANSWER 24 OF 32 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1994:315619 HCAPLUS
DOCUMENT NUMBER: 120:315619
TITLE: HU-211, a **non-psychotropic cannabinoid**, rescues cortical neurons from excitatory amino acid toxicity in culture
AUTHOR(S): Eshhar, Nomi; Striem, Sarina; Biegon, Anat
CORPORATE SOURCE: Pharmacol. Dep., Pharmos Ltd., Rehovot, 76326, Israel
SOURCE: NeuroReport (**1993**), 5(3), 237-40
CODEN: NERPEZ; ISSN: 0959-4965
DOCUMENT TYPE: Journal
LANGUAGE: English

AB The present study examined potential neuroprotective effects of HU-211, a synthetic **non-psychotropic cannabinoid** with non-competitive NMDA antagonist properties on neurons exposed to various excitotoxins in culture. HU-211 was found to protect neurons from NMDA and quisqualate-induced toxicity but not that produced by AMPA or kainate. NMDA-mediated neurotoxicity was blocked by HU-211 in a dose dependent manner with an EC50 = 3.8 ± 0.9 μM. Radioligand binding studies have shown that HU-211 inhibits the binding of [3H]MK-801 to rat forebrain membranes (KI = 11.0 μM ± 1.323) in a competitive manner, but was unable to displace [3H]kainate and [3H]AMPA binding. These data suggest that the neuroprotective activity of HU-211 is directly associated with the NMDA receptor channel and possibly with the quisqualate receptor of the metabotropic class. Thus, HU-211 appears to act as an NMDA open channel blocker and shows promise as a novel neuroprotectant for clin. use.

IT **112924-45-5**, HU-211
RL: PRP (Properties)
(neuroprotectant activity and mechanism of)
RN 112924-45-5 HCAPLUS
CN 6H-Dibenzo[b,d]pyran-9-methanol, 3-(1,1-dimethylheptyl)-6a,7,10,10a-tetrahydro-1-hydroxy-6,6-dimethyl-, (6aS,10aS)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

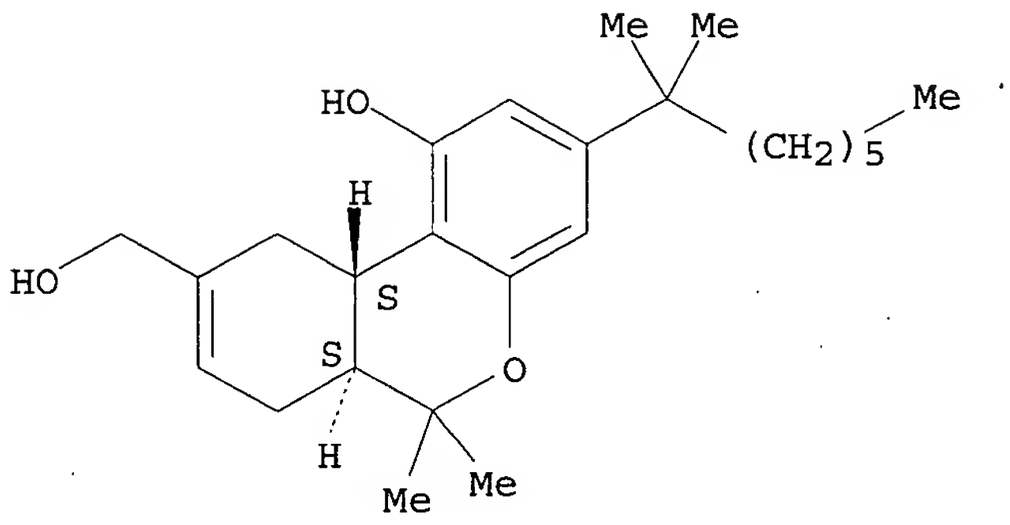


L56 ANSWER 25 OF 32 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1994:95460 HCAPLUS
DOCUMENT NUMBER: 120:95460
TITLE: The **non-psychotropic cannabinoid** (+)-(3S,4S)-7-hydroxy-Δ6-**tetrahydrocannabinol** 1,1-dimethylheptyl (HU-211) attenuates N-methyl-D-aspartate receptor-mediated neurotoxicity in primary cultures of rat forebrain
AUTHOR(S): Nadler, Varda; Mechoulam, Raphael; Sokolovsky, Mordechai
CORPORATE SOURCE: George S. Wise Fac. Life Sci., Tel Aviv Univ., Tel Aviv-Jaffa, 69978, Israel
SOURCE: Neuroscience Letters (**1993**), 162(1-2), 43-5
CODEN: NELED5; ISSN: 0304-3940
DOCUMENT TYPE: Journal
LANGUAGE: English

AB The **non-psychotropic cannabinoid** (+)-(3S,4S)-7-hydroxy-Δ6- **tetrahydrocannabinol** 1,1-dimethylheptyl (HU-211), a stereoselective inhibitor of the N-methyl-D-aspartate (NMDA) receptor, protects primary cultures of rat forebrain against NMDA receptor-mediated neurotoxicity. Cell mortality produced by exposure for 10 min to NMDA or glutamate was reduced to approx. 18 or 27%, resp., by application of 50 μM HU-211 for 10-15 min during or after exposure of cultures to excitatory amino acid. This effect of HU-211 was dependent on its concentration (EC50 = 8.7 ± 4 μM). HU-211 also reduced the toxicity induced by brief exposure (10 min) to kainate or quisqualate, though less effectively. HU-211 may therefore prove useful as a non-psychoactive drug that protects against neurotoxicity mediated by the NMDA receptor.

IT **112924-45-5**, HU-211
RL: BIOL (Biological study)
(NMDA receptors neurotoxicity inhibition by, in forebrain)
RN 112924-45-5 HCAPLUS
CN 6H-Dibenzo[b,d]pyran-9-methanol, 3-(1,1-dimethylheptyl)-6a,7,10,10a-tetrahydro-1-hydroxy-6,6-dimethyl-, (6aS,10aS)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



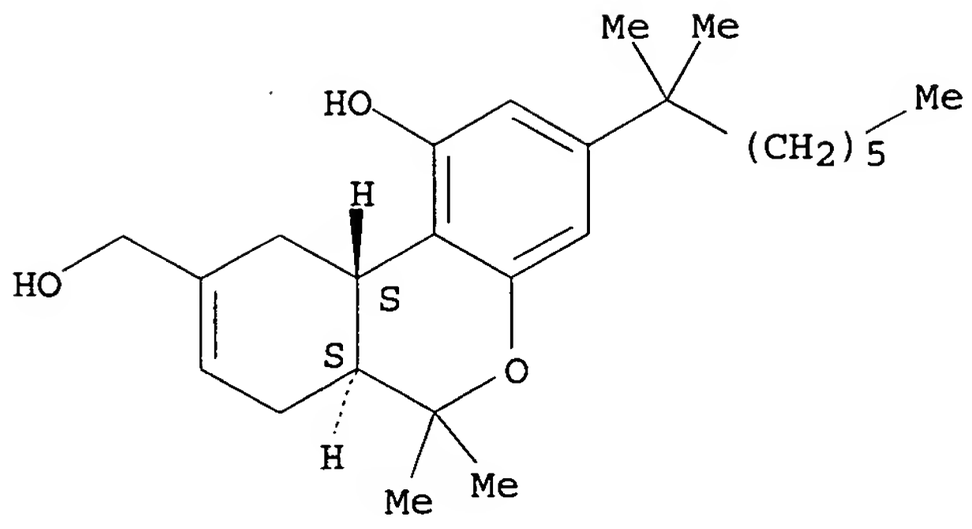
L56 ANSWER 26 OF 32 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1993:16190 HCAPLUS
DOCUMENT NUMBER: 118:16190
TITLE: Effect of synthetic enantiomeric **cannabinoids** on platelet aggregation
AUTHOR(S): Nathan, I.; Agam, G.; Mechoulam, R.; Dvilansky, A.; Livne, A. A.
CORPORATE SOURCE: Dep. Clin. Biochem., Ben Gurion Univ. Negev, Beer Sheva, 84105, Israel
SOURCE: Canadian Journal of Physiology and Pharmacology (**1992**), 70(10), 1305-8
CODEN: CJPPA3; ISSN: 0008-4212
DOCUMENT TYPE: Journal
LANGUAGE: English

AB The effect of a synthetic pair of enantiomeric **cannabinoids** on platelet function was evaluated. The **nonpsychotropic** enantiomer, the 1,1-dimethylheptyl homolog of (+)-(3S,4S)-7-hydroxy-Δ-6- **tetrahydrocannabinol** (HU-211), was found to be more active in inhibiting ADP-induced platelet aggregation than the highly **psychotropic** (-)-enantiomer (HU-210). The related (+)-(3R,3R) **cannabinoid**, HU-213, which lacks the 7-hydroxy moiety, exerted its inhibitory effect within a wider range of concns. The results indicate a differentiation between **psychotropic** activity and inhibition of platelet aggregation in the **cannabinoid** group of compds.

IT **112924-45-5**, HU-211
RL: BIOL (Biological study)
(platelet aggregation inhibition and **psychotropic** activity of, structure in relation to)

RN 112924-45-5 HCAPLUS
CN 6H-Dibenzo[b,d]pyran-9-methanol, 3-(1,1-dimethylheptyl)-6a,7,10,10a-tetrahydro-1-hydroxy-6,6-dimethyl-, (6aS,10aS)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

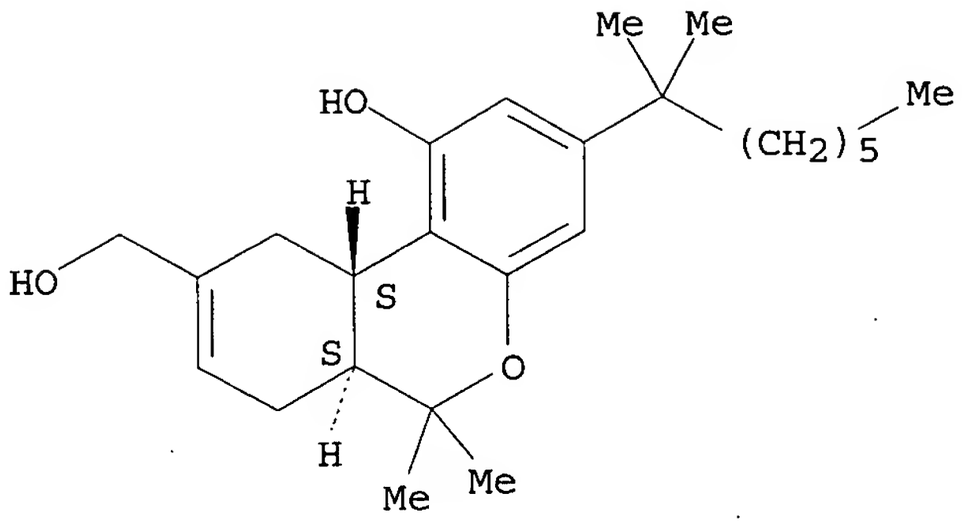


L56 ANSWER 27 OF 32 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1992:51323 HCAPLUS
DOCUMENT NUMBER: 116:51323
TITLE: Suppression of neuropathic pain behavior in rats by a **non-psychotropic** synthetic **cannabinoid** with NMDA receptor-blocking properties
AUTHOR(S): Zeltser, R.; Seltzer, Z.; Eisen, A.; Feigenbaum, J. J.; Mechoulam, R.
CORPORATE SOURCE: Dep. Oral Maxillofacial Surg., Hadassah Univ. Hosp., Jerusalem, Israel
SOURCE: Pain (**1991**), 47(1), 95-103
CODEN: PAINDB; ISSN: 0304-3959
DOCUMENT TYPE: Journal
LANGUAGE: English

AB HU211 is a novel synthetic derivative of tetrahydro-**cannabinol** (THC0, the active marijuana ingredient. The stereochem. of HU211 is enantiomeric to that of THC. In contrast to THC, HU211 is not **psychotropic.** This agent exhibits other types of biol. activities; it is a non-competitive NMDA receptor blocker and has antinociceptive activity when injected with cupric chloride. This study examined its effects in autotomy, a behavioral model of neuropathic pain. Autotomy, a behavior of self-mutilation of denervated areas, was induced in Sabra rats by cutting the sciatic and saphenous nerves. Injections of HU211 (2.5 mg/kg) with cupric chloride (0.8 mg/kg) every 2nd day markedly suppressed autotomy during the injection period by delaying its average onset day and reducing the incidence of severe autotomy. Moreover, suppression of autotomy was retained in the postinjection period (for at least 30 days) but only when the drug was injected i.p. Lesser effects were achieved by s.c. injections. Cupric chloride or HU211 alone were ineffective. The general behavior and open field motor activity indicated that the effects of HU211 with Cu++ on autotomy were not due to sedation or ataxia but presumably due to antinociception mediated by NMDA receptor blockade.

IT **112924-45-5**, HU211
RL: BIOL (Biological study)
(suppression of neuropathic pain behavior by, NMDA receptor block in)
RN 112924-45-5 HCAPLUS
CN 6H-Dibenzo[b,d]pyran-9-methanol, 3-(1,1-dimethylheptyl)-6a,7,10,10a-tetrahydro-1-hydroxy-6,6-dimethyl-, (6aS,10aS)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

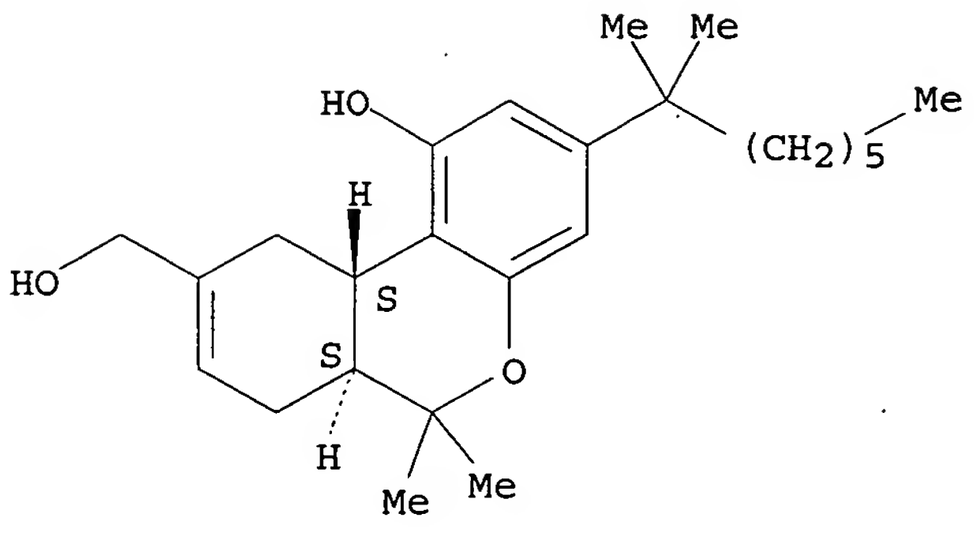


L56 ANSWER 28 OF 32 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1990:30609 HCAPLUS
DOCUMENT NUMBER: 112:30609
TITLE: **Nonpsychotropic cannabinoid** acts as a functional N-methyl-D-aspartate receptor blocker
AUTHOR(S): Feigenbaum, Jeffery J.; Bergmann, Felix; Richmond, Saul A.; Mechoulam, Raphael; Nadler, Varda; Kloog, Yoel; Sokolovsky, Mordechai
CORPORATE SOURCE: Fac. Med., Hebrew Univ., Jerusalem, 91120, Israel
SOURCE: Proceedings of the National Academy of Sciences of the United States of America (**1989**), 86(23), 9584-7
CODEN: PNASA6; ISSN: 0027-8424
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Binding studies using the enantiomers of the synthetic **cannabinoid** 7-hydroxy-Δ6- **tetrahydrocannabinol** 1,1-dimethylheptyl homolog in prepns. of rat brain cortical membranes reveal that the (+)-(3S,4S) enantiomer of this compound (HU-211) blocks N-methyl-D-aspartate (NMDA) receptors in a stereospecific manner and that the interaction occurs at binding sites distinct from those of other noncompetitive NMDA antagonists or of glutamate and glycine. Moreover, HU-211 induces stereotypy and locomotor hyperactivity in mice and tachycardia in rat, effects typically caused by NMDA receptor antagonists. HU-211 is also a potent blocker of NMDA-induced tremor, seizures, and lethality in mice. This compound may therefore prove useful as a **nonpsychoactive** drug that protects against NMDA-receptor-mediated neurotoxicity.

IT **112924-45-5**, HU 211
RL: BIOL (Biological study)
(as methylaspartate receptor antagonist)
RN 112924-45-5 HCAPLUS
CN 6H-Dibenzo[b,d]pyran-9-methanol, 3-(1,1-dimethylheptyl)-6a,7,10,10a-tetrahydro-1-hydroxy-6,6-dimethyl-, (6aS,10aS)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



L56 ANSWER 29 OF 32 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1990:525 HCAPLUS
DOCUMENT NUMBER: 112:525
TITLE: Inhibition of cisplatin-induced emesis in the pigeon by a **nonpsychotropic** synthetic **cannabinoid**
AUTHOR(S): Feigenbaum, Jeffery J.; Richmond, Saul A.; Weissman, Yoram; Mechoulam, Raphael
CORPORATE SOURCE: Med. Fac., Hebrew Univ., Jerusalem, Israel
SOURCE: European Journal of Pharmacology (**1989**), 169(1), 159-65
CODEN: EJPHAZ; ISSN: 0014-2999
DOCUMENT TYPE: Journal
LANGUAGE: English

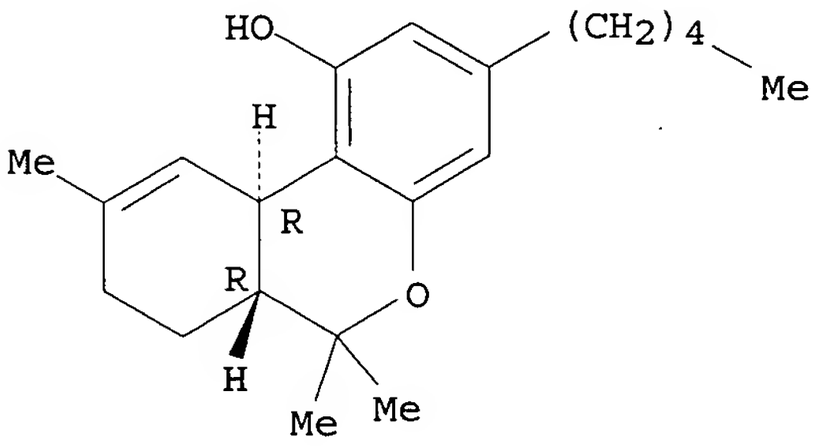
AB The (+) enantiomer of the synthetic **cannabinoid**, 7-hydroxy-Δ6- **tetrahydrocannabinol**, dimethylheptyl homolog (HU-211), possesses antiemetic efficacy in the pigeon. However, unlike all antiemetic **cannabinoids** tested in the past, it is devoid of **psychotropic** (**cannabinoid**) activity. The antiemetic activity of HU-211 was determined in pigeons given 10 mg/kg, i.v., cisplatin, a widely used antitumor agent, which is also a potent emesis producing agent at this dose. This activity was compared with that of Δ1- **tetrahydrocannabinol** (Δ1-THC). HU-211 pretreatment elicited a dose-related inhibition of cisplatin vomiting, with the optimal dose of HU-211 (2.5 mg/kg) inhibiting emesis by nearly 90%. Δ1-THC in doses up to 5 mg/kg caused only an insignificant reduction in vomiting. The activity was increased in the presence of CuCl2 (0.8 mg/kg). The optimal dose of Δ1-THC (5.0 mg/kg) with CuCl2 diminished the total amount of vomit expelled (up to 90%). However, it failed to inhibit emesis in 50% of all animals tested, did not affect the time of onset of emesis, and was highly **psychotropic.** The optimal dose of HU-211 (2.5 mg/kg) with CuCl2 inhibited emesis by 97%, delayed the time on onset of emesis in the very few animals that did vomit, and was completely **nonpsychotropic.** The curve for the antiemetic effect of HU-211 was U-shaped over a narrow dose range. Thus, complete separation of **psychotropic** and antiemetic activities is possible in the **cannabinoid** series.

IT **1972-08-3**, Δ1- **Tetrahydrocannabinol**
112924-45-5, HU 211
RL: BIOL (Biological study)
(vomiting inhibition by, **psychotropic** activity in relation to)

RN 1972-08-3 HCAPLUS
CN 6H-Dibenzo[b,d]pyran-1-ol, 6a,7,8,10a-tetrahydro-6,6,9-trimethyl-3-pentyl-

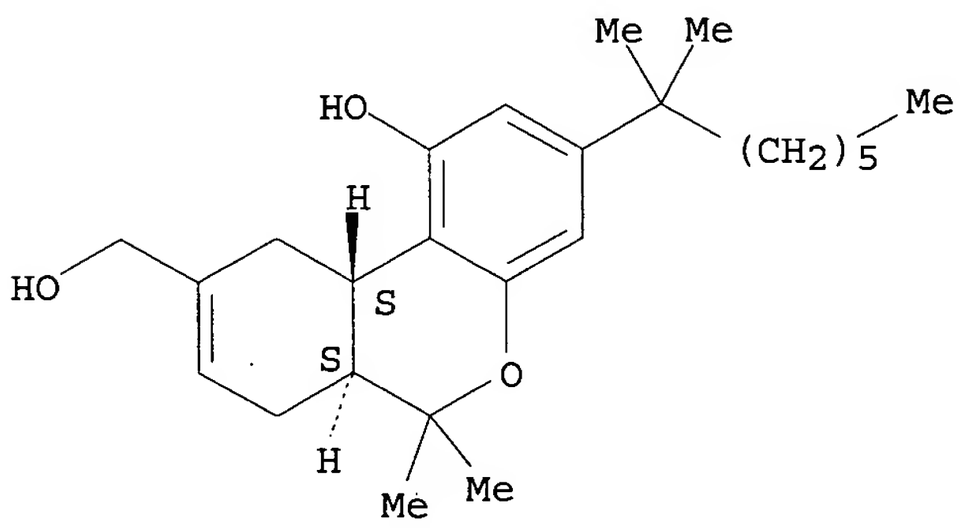
, (6aR,10aR)- (9CI) (CA INDEX NAME)

Absolute stereochemistry. Rotation (-).



RN 112924-45-5 HCAPLUS
CN 6H-Dibenzo[b,d]pyran-9-methanol, 3-(1,1-dimethylheptyl)-6a,7,10,10a-tetrahydro-1-hydroxy-6,6-dimethyl-, (6aS,10aS)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

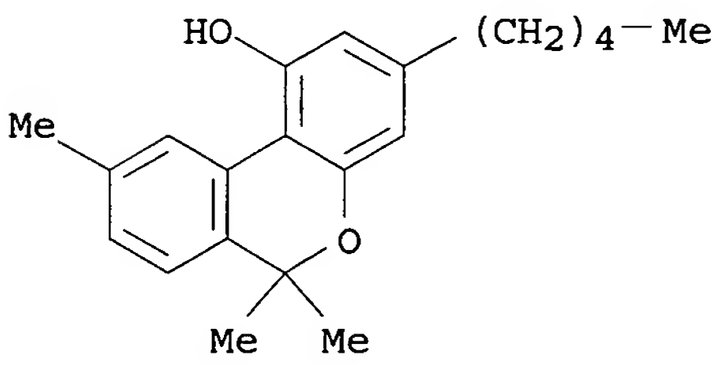


L56 ANSWER 30 OF 32 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1986:102303 HCAPLUS
DOCUMENT NUMBER: 104:102303
TITLE: High-affinity **cannabinoid** binding sites in brain membranes labeled with [3H]-5'-trimethylammonium Δ8- **tetrahydrocannabinol**
AUTHOR(S): Nye, Jeffrey S.; Seltzman, Herbert H.; Pitt, Colin G.; Snyder, Solomon H.
CORPORATE SOURCE: Sch. Med., Johns Hopkins Univ., Baltimore, MD, 21205, USA
SOURCE: Journal of Pharmacology and Experimental Therapeutics (**1985**), 234(3), 784-91
CODEN: JPETAB; ISSN: 0022-3565
DOCUMENT TYPE: Journal
LANGUAGE: English
AB The binding of 3H-labeled 5'-trimethylammonium Δ8- **tetrahydrocannabinol** (TMA) [99469-31-5], a pos. charged analog of Δ8-THC modified on the 5' C (a portion of the mol. not important for its psychoactivity), to rat neuronal membranes was studied. Unlabeled TMA inhibits field-stimulated contractions of the guinea-pig ileum (IC50 = 1 μM) in the same presynaptic manner as Δ9-THC [3H]TMA binds saturably and reversibly to brain membranes with high affinity (Kp = 89 nM) to apparently 1 class of site (Hill coefficient, 1.1). Highest binding

site d. occurs in the brain, but several peripheral organs also display specific binding. Detergent solubilizes the sites without affecting their pharmacol. properties. Mol. sieve chromatog. reveals a bimodal peak of [3H]TMA binding activity of approx. 60,000 daltons apparent mol. weight Δ9-THC competitively inhibits [3H]TMA binding potently (Ki = 27 nM) and stereoselectively. For some **cannabinoids** potency in behavioral and physiol. tests parallels their affinity for the [3H]TMA binding site. However, several **nonpsychotropic cannabinoids** are active at the binding site.

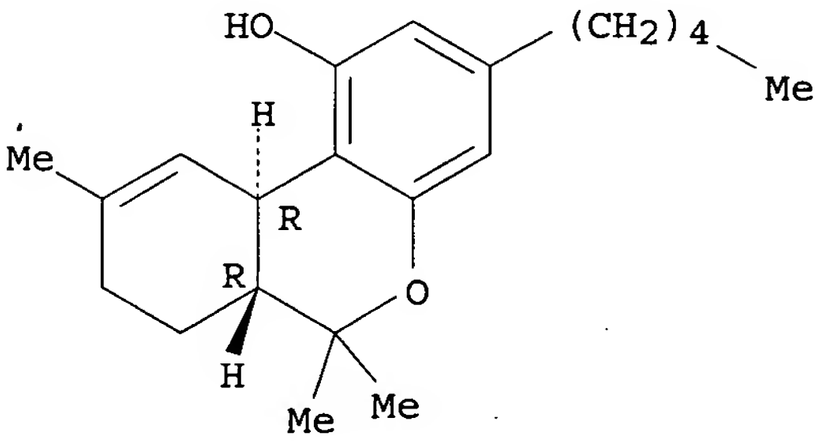
IT **521-35-7 1972-08-3 5957-75-5**
13956-29-1 17766-02-8 21366-63-2
25654-31-3 27262-32-4 28646-40-4
32794-91-5 33029-18-4 34675-49-5
34984-78-6 36557-05-8 36913-21-0
39690-06-7 51895-51-3 53989-32-5
56354-06-4 57030-51-0 58434-44-9
RL: PROC (Process)
(binding of, to brain membrane, pharmacol. activity in relation to)

RN 521-35-7 HCAPLUS
CN 6H-Dibenzo[b,d]pyran-1-ol, 6,6,9-trimethyl-3-pentyl- (7CI, 8CI, 9CI) (CA INDEX NAME)



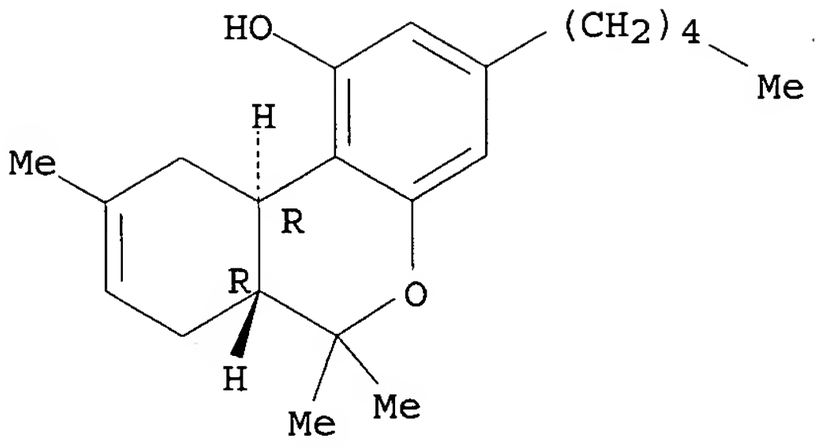
RN 1972-08-3 HCAPLUS
CN 6H-Dibenzo[b,d]pyran-1-ol, 6a,7,8,10a-tetrahydro-6,6,9-trimethyl-3-pentyl-, (6aR,10aR)- (9CI) (CA INDEX NAME)

Absolute stereochemistry. .Rotation (-).



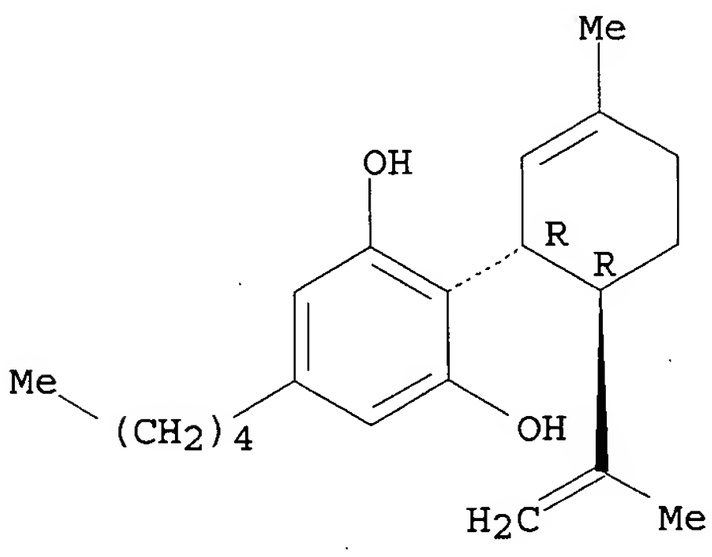
RN 5957-75-5 HCAPLUS
CN 6H-Dibenzo[b,d]pyran-1-ol, 6a,7,10,10a-tetrahydro-6,6,9-trimethyl-3-pentyl-, (6aR,10aR)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



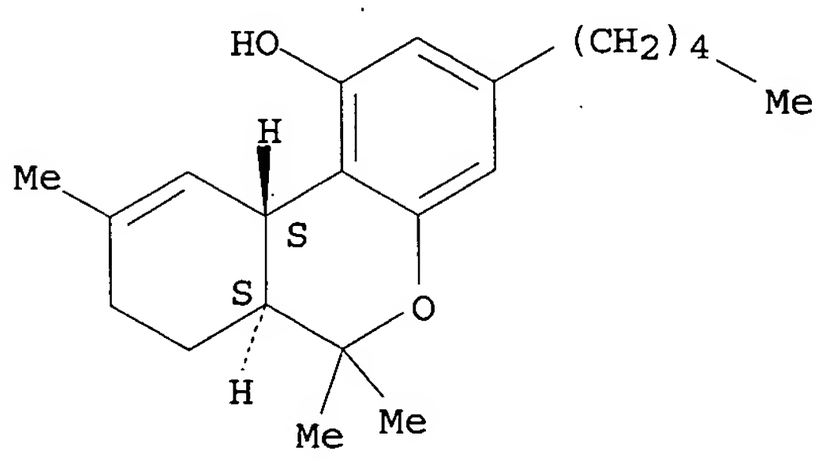
RN 13956-29-1 HCAPLUS
CN 1,3-Benzenediol, 2-[(1R,6R)-3-methyl-6-(1-methylethenyl)-2-cyclohexen-1-yl]-5-pentyl- (9CI) (CA INDEX NAME)

Absolute stereochemistry. Rotation (+).

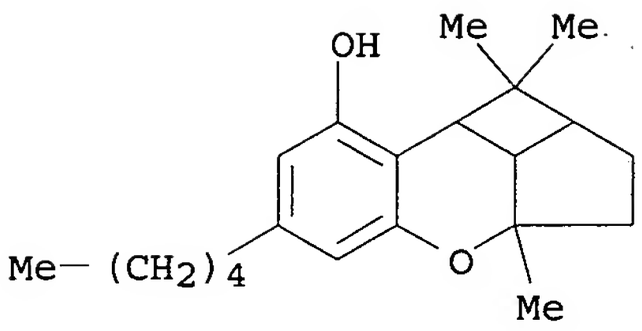


RN 17766-02-8 HCAPLUS
CN 6H-Dibenzo[b,d]pyran-1-ol, 6a,7,8,10a-tetrahydro-6,6,9-trimethyl-3-pentyl-, (6aS,10aS)- (9CI) (CA INDEX NAME)

Absolute stereochemistry. Rotation (+).

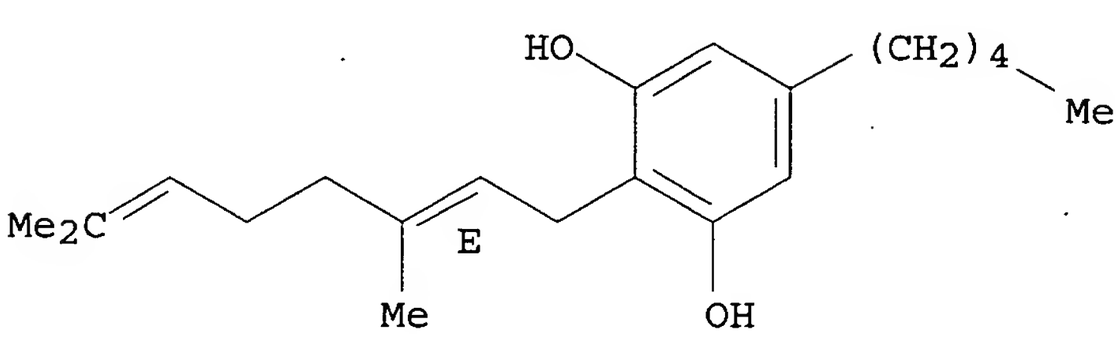


RN 21366-63-2 HCAPLUS
CN 1H-4-Oxabenzo[f]cyclobut[cd]inden-8-ol, 1a,2,3,3a,8b,8c-hexahydro-1,1,3a-trimethyl-6-pentyl-, (1aS,3aR,8bR,8cR)- (9CI) (CA INDEX NAME)



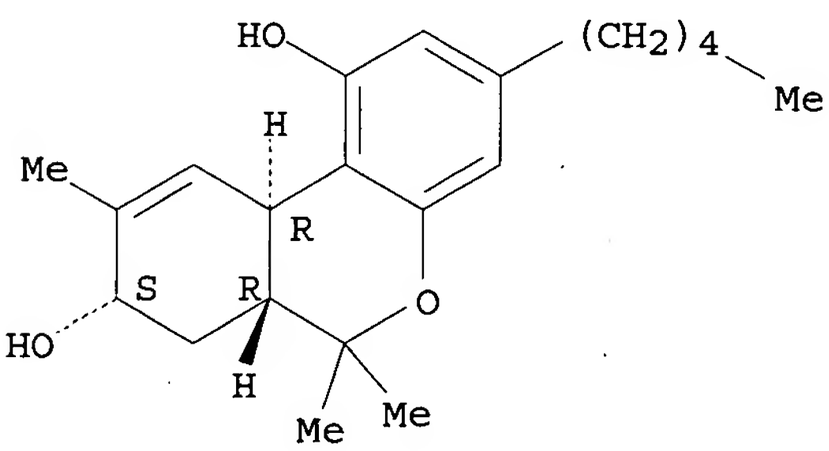
RN 25654-31-3 HCAPLUS
CN 1,3-Benzenediol, 2-[(2E)-3,7-dimethyl-2,6-octadienyl]-5-pentyl- (9CI) (CA INDEX NAME)

Double bond geometry as shown.



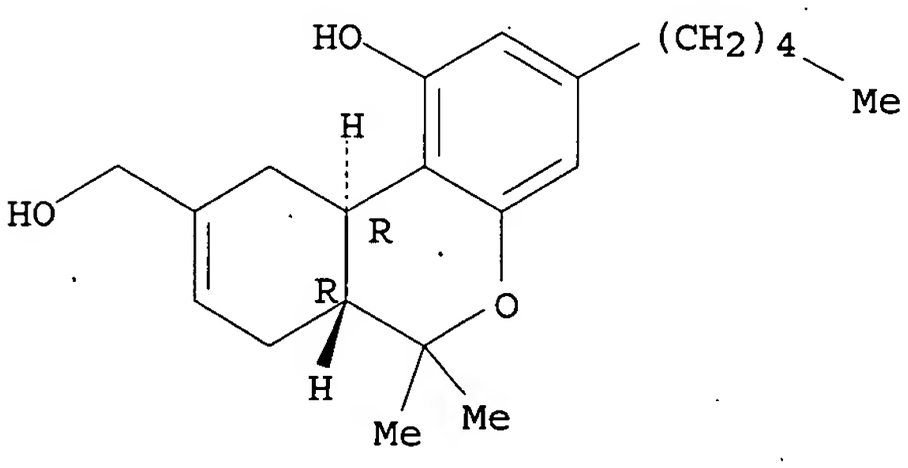
RN 27262-32-4 HCAPLUS
CN 6H-Dibenzo[b,d]pyran-1,8-diol, 6a,7,8,10a-tetrahydro-6,6,9-trimethyl-3-pentyl-, (6aR,8S,10aR)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



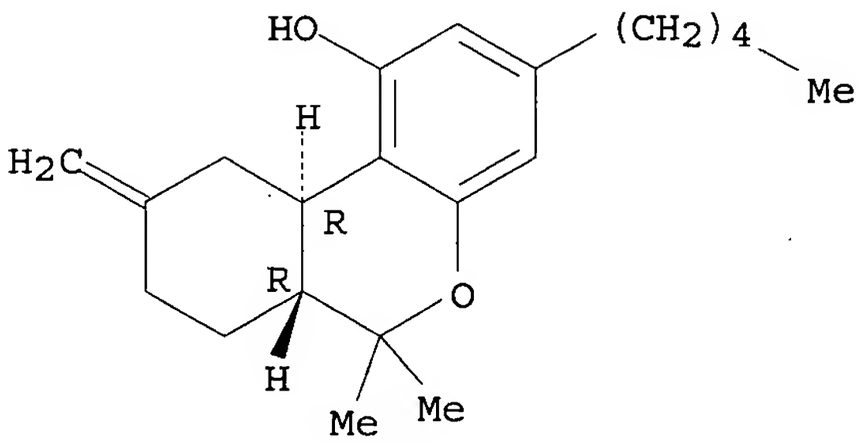
RN 28646-40-4 HCAPLUS
CN 6H-Dibenzo[b,d]pyran-9-methanol, 6a,7,10,10a-tetrahydro-1-hydroxy-6,6-dimethyl-3-pentyl-, (6aR,10aR)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



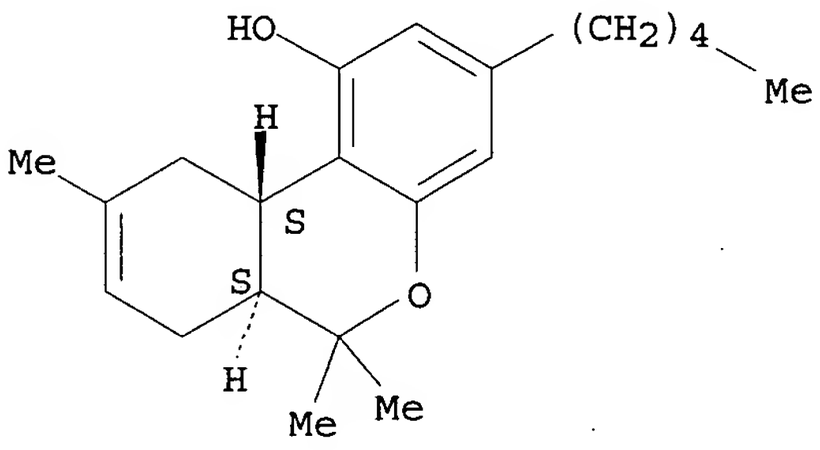
RN 32794-91-5 HCAPLUS
CN 6H-Dibenzo[b,d]pyran-1-ol, 6a,7,8,9,10,10a-hexahydro-6,6-dimethyl-9-methylene-3-pentyl-, trans- (8CI, 9CI) (CA INDEX NAME)

Relative stereochemistry.



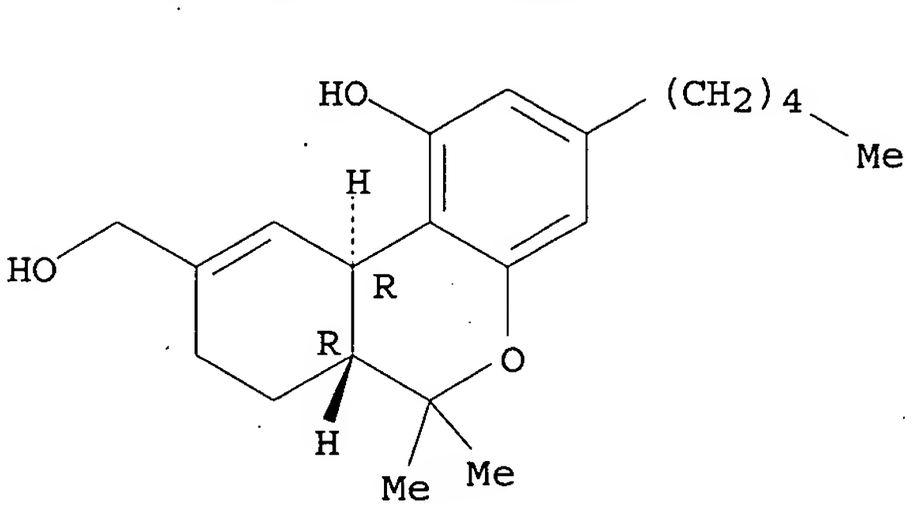
RN 33029-18-4 HCAPLUS
CN 6H-Dibenzo[b,d]pyran-1-ol, 6a,7,10,10a-tetrahydro-6,6,9-trimethyl-3-pentyl-, (6aS,10aS)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



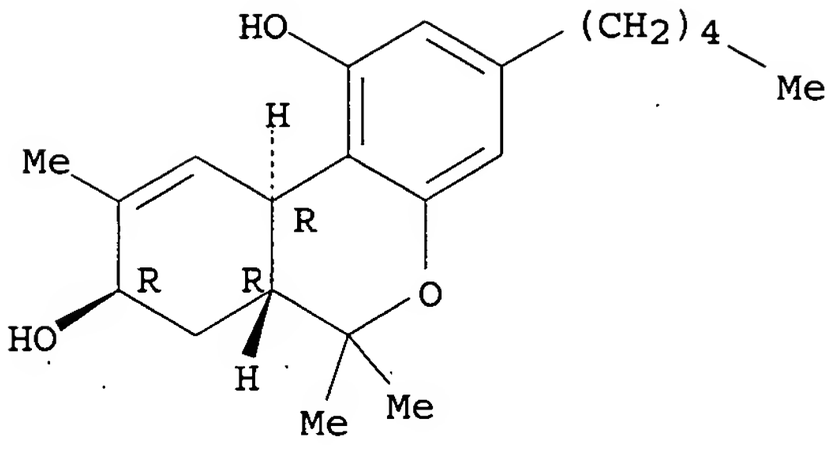
RN 34675-49-5 HCAPLUS
CN 6H-Dibenzo[b,d]pyran-9-methanol, 6a,7,8,10a-tetrahydro-1-hydroxy-6,6-dimethyl-3-pentyl-, (6aR,10aR)-rel- (9CI) (CA INDEX NAME)

Relative stereochemistry.



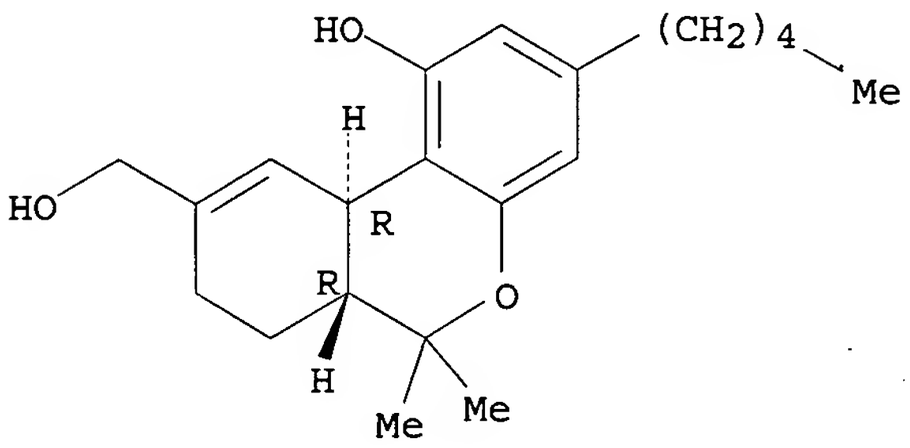
RN 34984-78-6 HCAPLUS
CN 6H-Dibenzo[b,d]pyran-1,8-diol, 6a,7,8,10a-tetrahydro-6,6,9-trimethyl-3-pentyl-, (6aR,8R,10aR)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



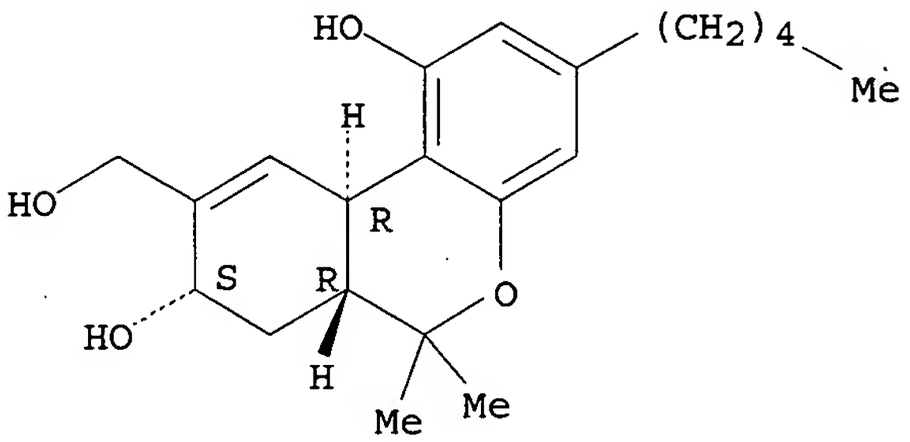
RN 36557-05-8 HCAPLUS
CN 6H-Dibenzo[b,d]pyran-9-methanol, 6a,7,8,10a-tetrahydro-1-hydroxy-6,6-dimethyl-3-pentyl-, (6aR,10aR)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



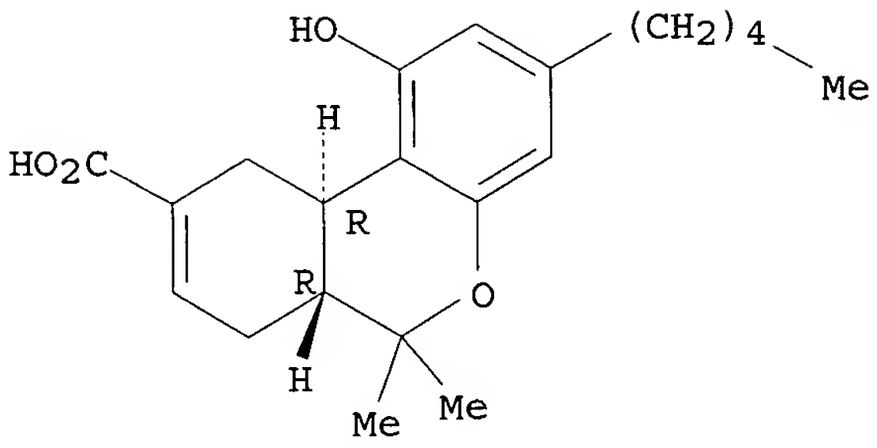
RN 36913-21-0 HCAPLUS
CN 6H-Dibenzo[b,d]pyran-1,8-diol, 6a,7,8,10a-tetrahydro-9-(hydroxymethyl)-6,6-dimethyl-3-pentyl-, [6aR-(6aα,8β,10aβ)]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

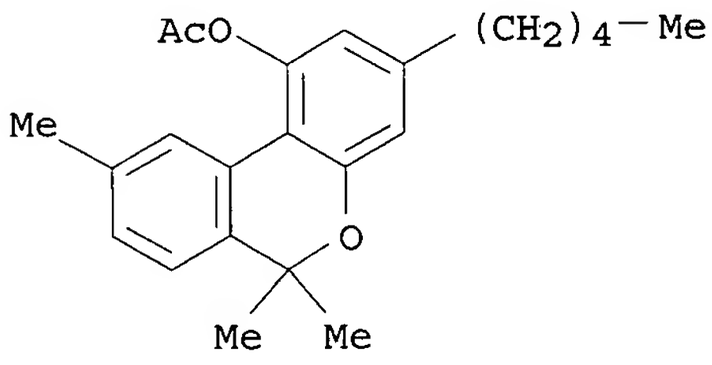


RN 39690-06-7 HCAPLUS
CN 6H-Dibenzo[b,d]pyran-9-carboxylic acid, 6a,7,10,10a-tetrahydro-1-hydroxy-6,6-dimethyl-3-pentyl-, (6aR,10aR)- (9CI) (CA INDEX NAME)

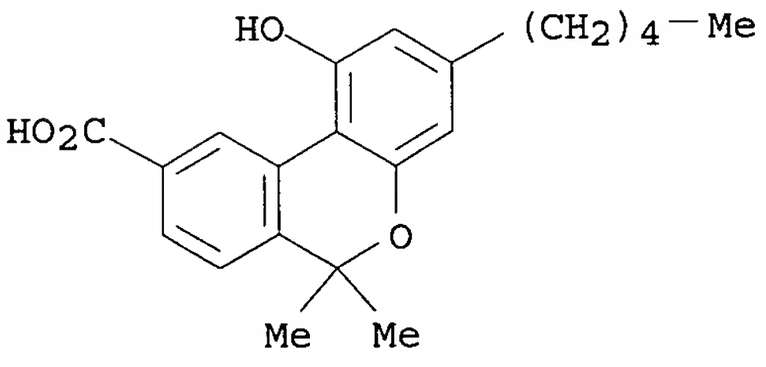
Absolute stereochemistry.



RN 51895-51-3 HCAPLUS
CN 6H-Dibenzo[b,d]pyran-1-ol, 6,6,9-trimethyl-3-pentyl-, acetate (9CI) (CA INDEX NAME)

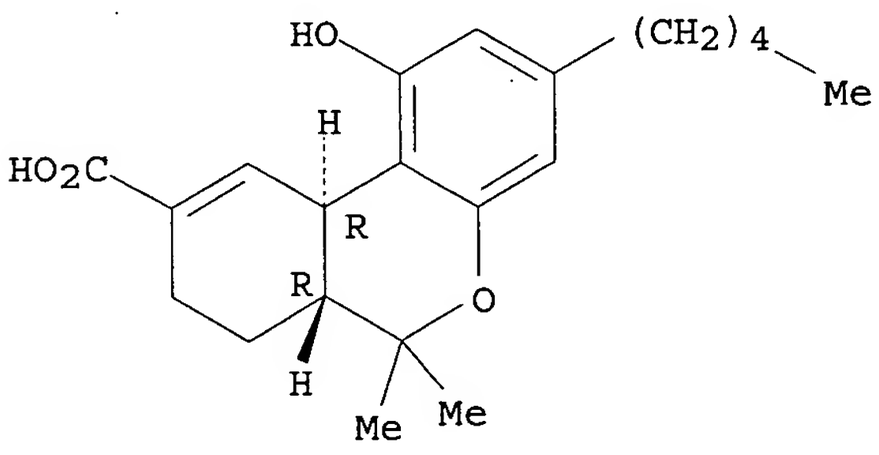


RN 53989-32-5 HCAPLUS
CN 6H-Dibenzo[b,d]pyran-9-carboxylic acid, 1-hydroxy-6,6-dimethyl-3-pentyl- (9CI) (CA INDEX NAME)



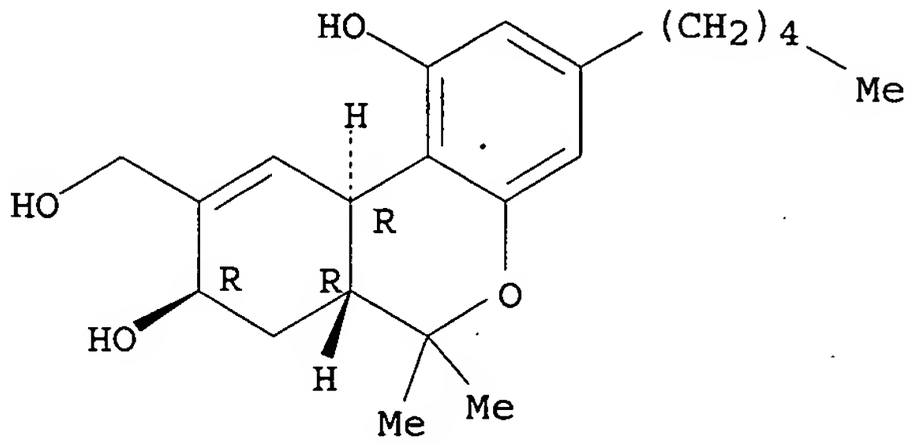
RN 56354-06-4 HCAPLUS
CN 6H-Dibenzo[b,d]pyran-9-carboxylic acid, 6a,7,8,10a-tetrahydro-1-hydroxy-6,6-dimethyl-3-pentyl-, (6aR,10aR)- (9CI) (CA INDEX NAME)

Absolute stereochemistry. Rotation (-).

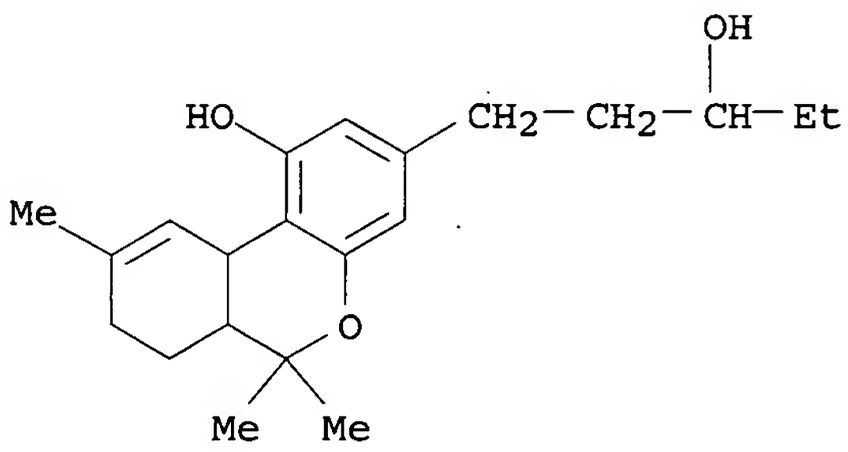


RN 57030-51-0 HCAPLUS
CN 6H-Dibenzo[b,d]pyran-1,8-diol, 6a,7,8,10a-tetrahydro-9-(hydroxymethyl)-6,6-dimethyl-3-pentyl-, (6aR,8R,10aR)- (9CI) (CA INDEX NAME)

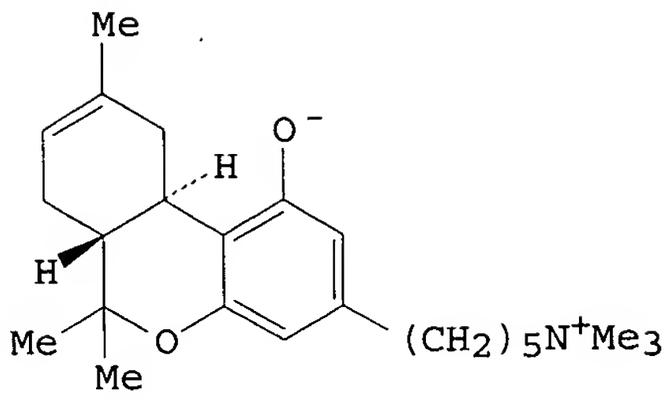
Absolute stereochemistry.



RN 58434-44-9 HCAPLUS
CN 6H-Dibenzo[b,d]pyran-3-propanol, α-ethyl-6a,7,8,10a-tetrahydro-1-hydroxy-6,6,9-trimethyl- (9CI) (CA INDEX NAME)



L56 ANSWER 31 OF 32 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1986:45598 HCAPLUS
DOCUMENT NUMBER: 104:45598
TITLE: Labeling of a **cannabinoid** binding site in brain with a [3H]quaternary ammonium analog of delta-8-THC
AUTHOR(S): Nye, J. S.; Seltzman, H. H.; Pitt, C. G.; Snyder, S. H.
CORPORATE SOURCE: Sch. Med., Johns Hopkins Univ., Baltimore, MD, 21205, USA
SOURCE: Marihuana '84 [Eighty-Four], Proc. Oxford Symp. Cannabis (**1985**), Meeting Date 1984, 253-62. Editor(s): Harvey, D. J. IRL: Oxford, UK. CODEN: 54PAAW
DOCUMENT TYPE: Conference
LANGUAGE: English
GI

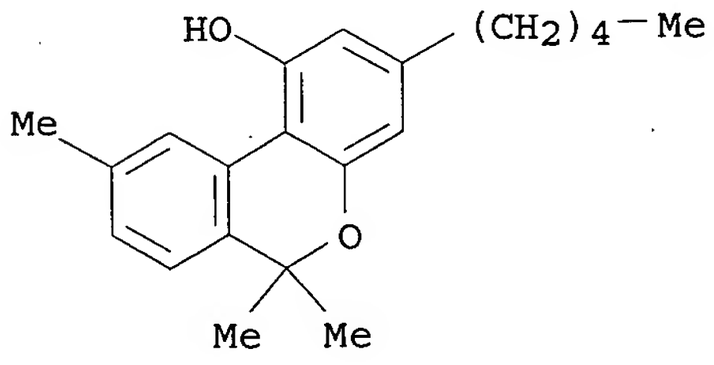


I

AB The binding of 3H-labeled 5'-trimethylammonium-8Δ-**tetrahydrocannabinol** (I) [99742-01-5] to rat neuronal membranes was studied. 'Unlabeled I inhibits field-stimulated contractions of the guinea pig ileum (IC-50 = 1000 nM) in the same presynaptic manner as 9Δ-THC. [3H]I binds saturably and reversibly to brain membranes with high affinity (Kd = 89 nM) to apparently 1 class of sites (Hill coefficient = 1.1). The highest receptor site d. occurs into brain, but several peripheral organs also display specific binding. Detergent solubilizes the sites without affecting their pharmacol. properties. Mol. sieve chromatog. reveals a bimodal peak of [3H]I binding activity, mol. weight approx. 60,000 daltons. (-)-trans-9Δ-**Tetrahydrocannabinol** **[1972-08-3]** competitively inhibits [3H]I binding potently (Ki = 27 nM) and stereoselectivity. For some **cannabinoids** potency in behavioral and physiol. tests parallels their affinity for the [3H]TMA binding site. However, several **non-psychotropic cannabinoids** are active at the binding site as well.

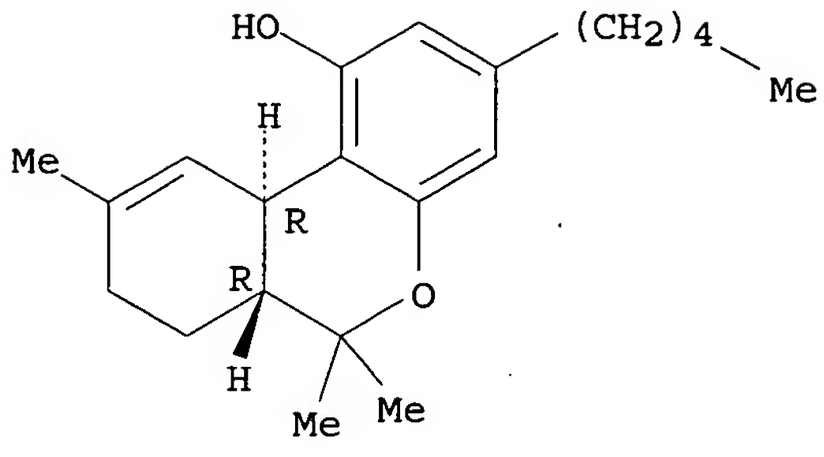
IT **521-35-7 1972-08-3 5957-75-5**
13956-29-1 17766-02-8 21366-63-2
25654-31-3 27179-28-8 27262-32-4
28646-40-4 30432-08-7 33029-18-4
34984-78-6 36403-90-4 36557-05-8
36913-21-0 39690-06-7 51895-51-3
53989-32-5 56354-06-4 57030-51-0
58434-44-9
RL: PROC (Process)
(binding of, to **cannabinoid** receptors of brain)

RN 521-35-7 HCAPLUS
CN 6H-Dibenzo[b,d]pyran-1-ol, 6,6,9-trimethyl-3-pentyl- (7CI, 8CI, 9CI) (CA INDEX NAME)



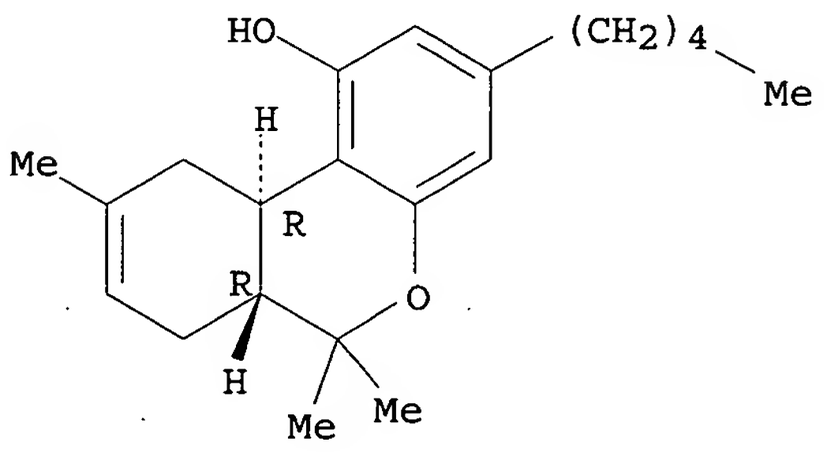
RN 1972-08-3 HCAPLUS
CN 6H-Dibenzo[b,d]pyran-1-ol, 6a,7,8,10a-tetrahydro-6,6,9-trimethyl-3-pentyl-, (6aR,10aR)- (9CI) (CA INDEX NAME)

Absolute stereochemistry. Rotation (-).



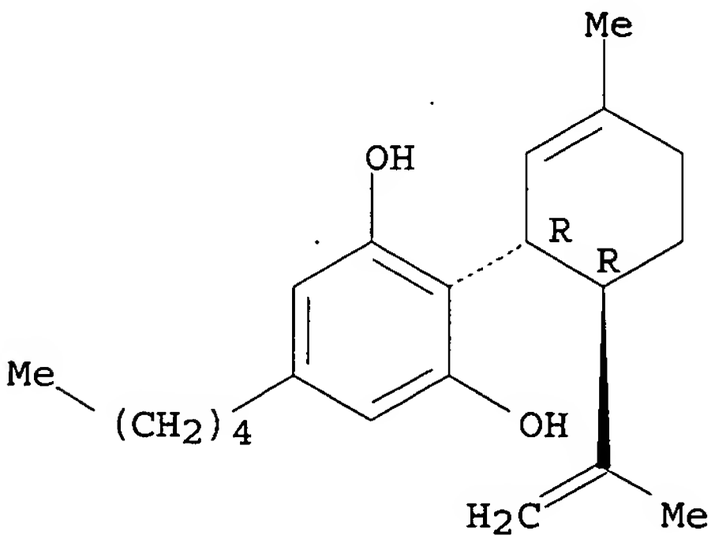
RN 5957-75-5 HCAPLUS
CN 6H-Dibenzo[b,d]pyran-1-ol, 6a,7,10,10a-tetrahydro-6,6,9-trimethyl-3-pentyl-, (6aR,10aR)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



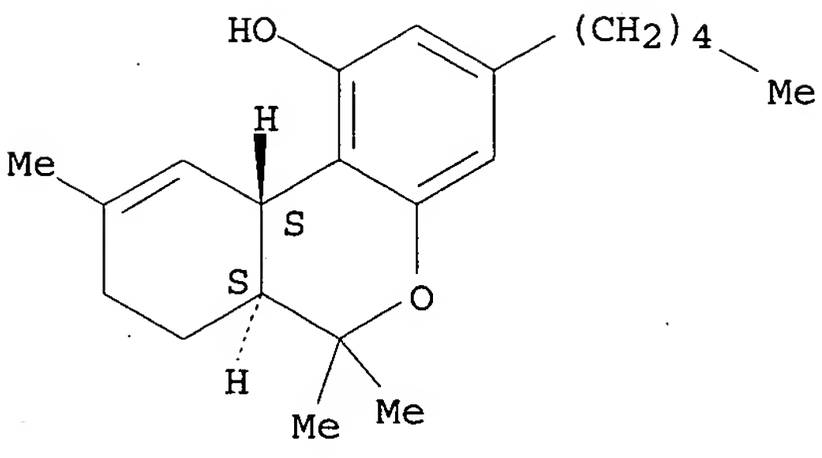
RN 13956-29-1 HCAPLUS
CN 1,3-Benzenediol, 2-[(1R,6R)-3-methyl-6-(1-methylethenyl)-2-cyclohexen-1-yl]-5-pentyl- (9CI) (CA INDEX NAME)

Absolute stereochemistry. Rotation (+).

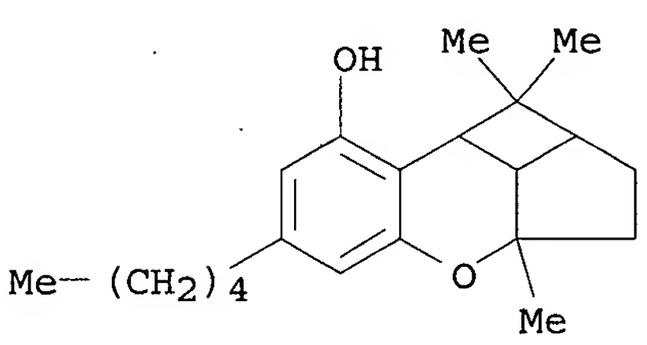


RN 17766-02-8 HCAPLUS
CN 6H-Dibenzo[b,d]pyran-1-ol, 6a,7,8,10a-tetrahydro-6,6,9-trimethyl-3-pentyl-, (6aS,10aS)- (9CI) (CA INDEX NAME)

Absolute stereochemistry. Rotation (+).

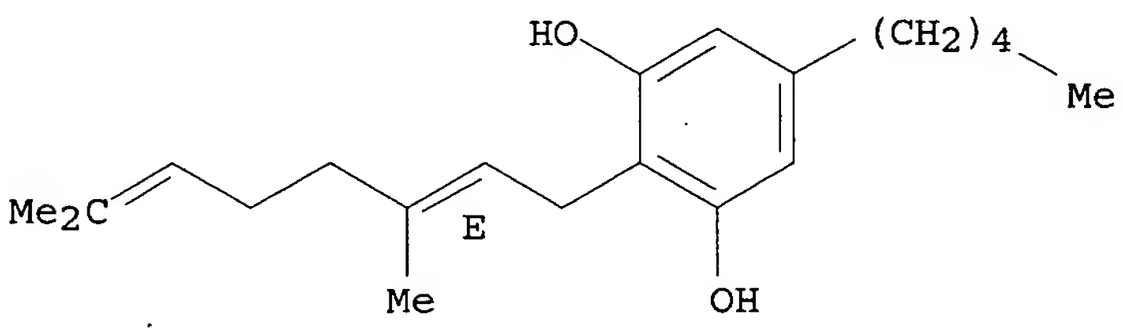


RN 21366-63-2 HCAPLUS
CN 1H-4-Oxabenzo[f]cyclobut[cd]inden-8-ol, 1a,2,3,3a,8b,8c-hexahydro-1,1,3a-trimethyl-6-pentyl-, (1aS,3aR,8bR,8cR)- (9CI) (CA INDEX NAME)



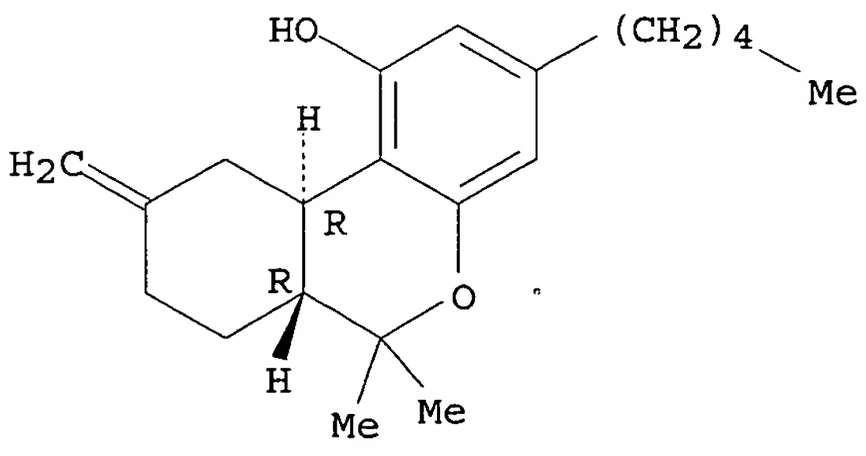
RN 25654-31-3 HCAPLUS
CN 1,3-Benzenediol, 2-[(2E)-3,7-dimethyl-2,6-octadienyl]-5-pentyl- (9CI) (CA INDEX NAME)

Double bond geometry as shown.



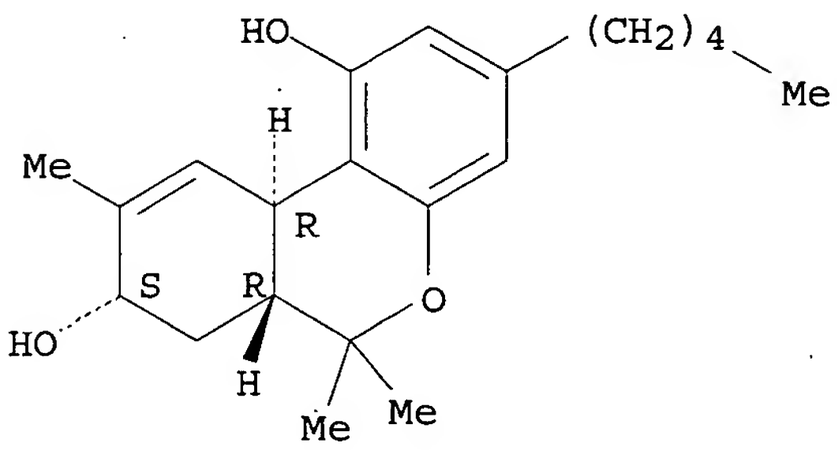
RN 27179-28-8 HCAPLUS
CN 6H-Dibenzo[b,d]pyran-1-ol, 6a,7,8,9,10,10a-hexahydro-6,6-dimethyl-9-methylene-3-pentyl-, (6aR,10aR)- (9CI) (CA INDEX NAME)

Absolute stereochemistry. Rotation (-).



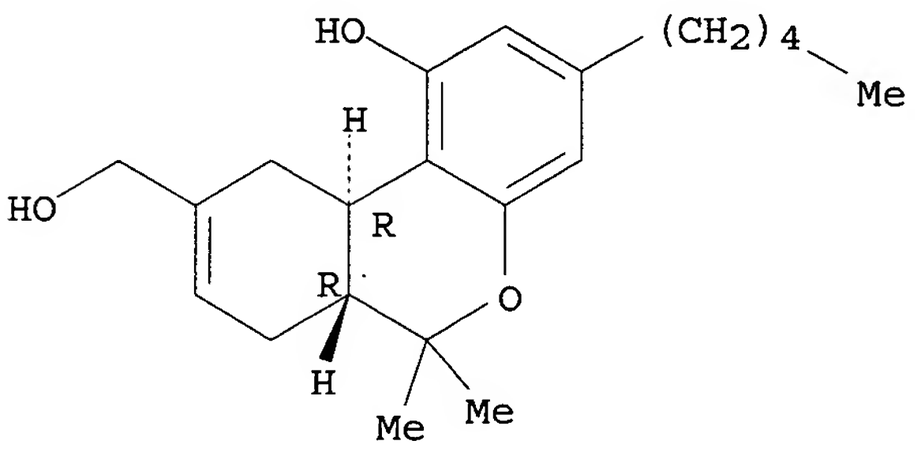
RN 27262-32-4 HCAPLUS
CN 6H-Dibenzo[b,d]pyran-1,8-diol, 6a,7,8,10a-tetrahydro-6,6,9-trimethyl-3-pentyl-, (6aR,8S,10aR)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

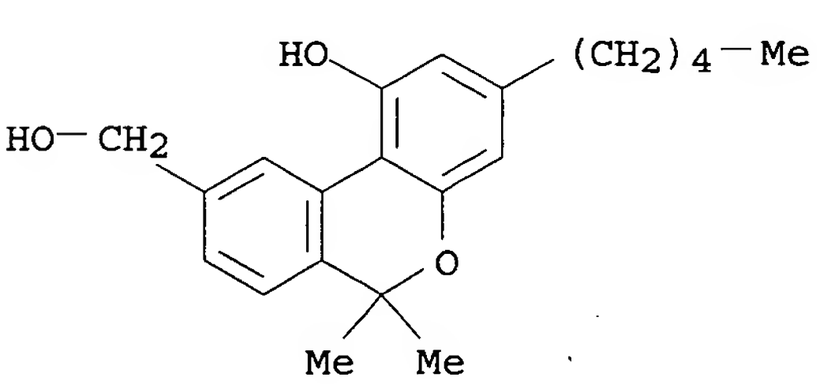


RN 28646-40-4 HCAPLUS
CN 6H-Dibenzo[b,d]pyran-9-methanol, 6a,7,10,10a-tetrahydro-1-hydroxy-6,6-dimethyl-3-pentyl-, (6aR,10aR)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

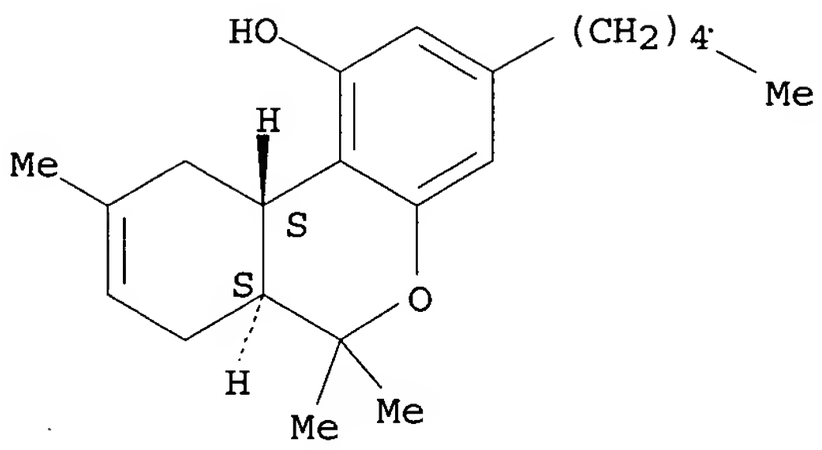


RN 30432-08-7 HCAPLUS
CN 6H-Dibenzo[b,d]pyran-9-methanol, 1-hydroxy-6,6-dimethyl-3-pentyl- (8CI, 9CI) (CA INDEX NAME)



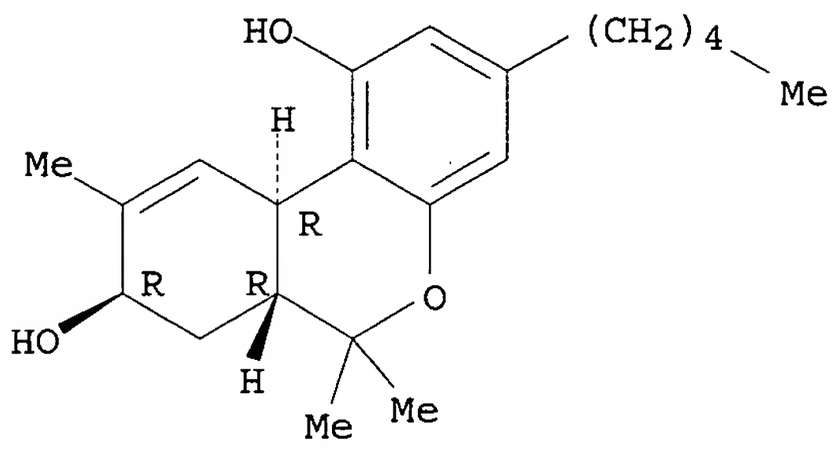
RN 33029-18-4 HCAPLUS
CN 6H-Dibenzo[b,d]pyran-1-ol, 6a,7,10,10a-tetrahydro-6,6,9-trimethyl-3-pentyl-, (6aS,10aS)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



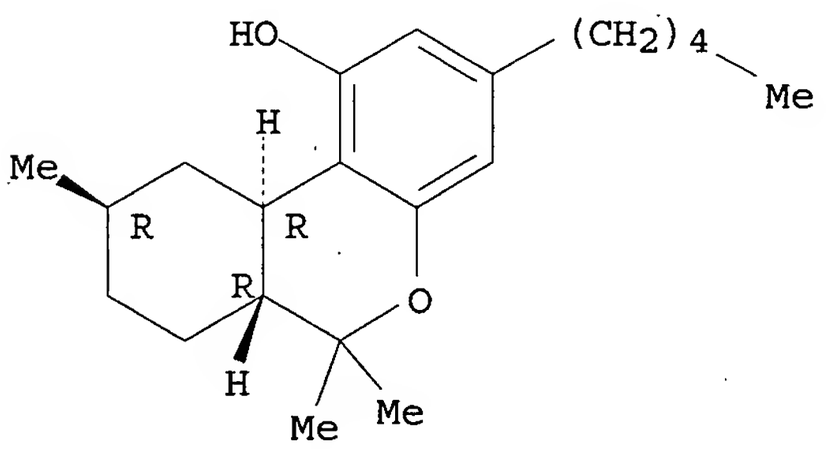
RN 34984-78-6 HCAPLUS
CN 6H-Dibenzo[b,d]pyran-1,8-diol, 6a,7,8,10a-tetrahydro-6,6,9-trimethyl-3-pentyl-, (6aR,8R,10aR)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



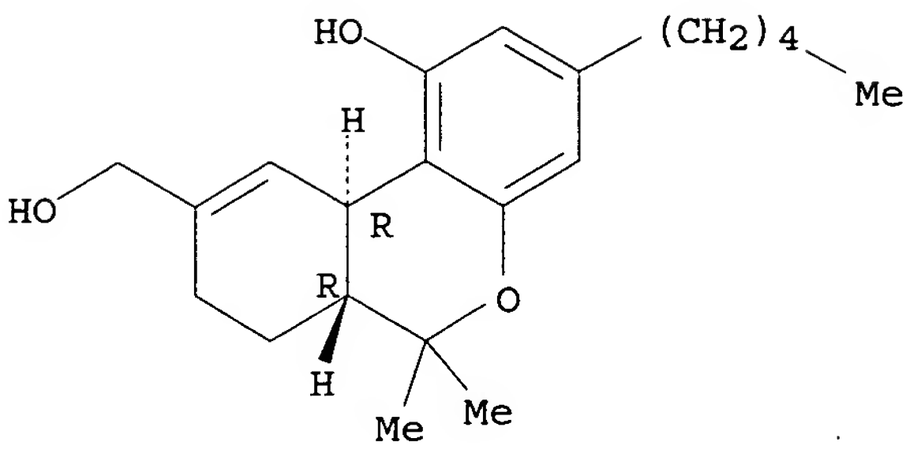
RN 36403-90-4 HCAPLUS
CN 6H-Dibenzo[b,d]pyran-1-ol, 6a,7,8,9,10,10a-hexahydro-6,6,9-trimethyl-3-pentyl-, (6aR,9R,10aR)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



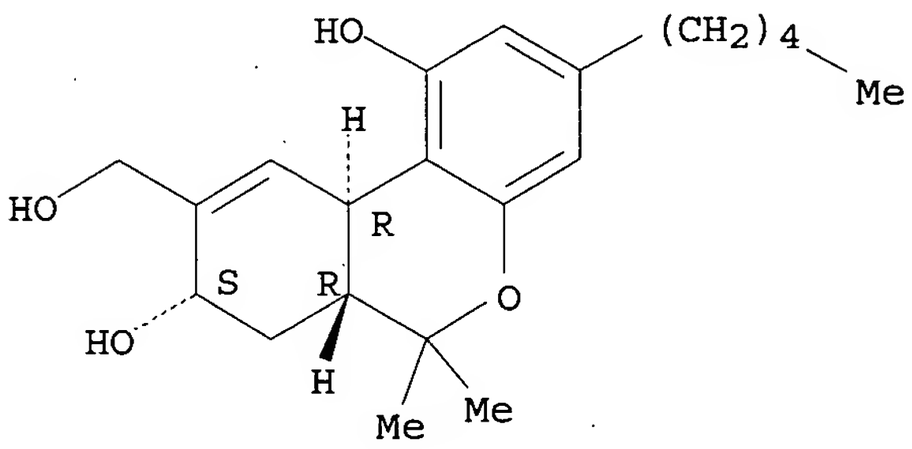
RN 36557-05-8 HCAPLUS
CN 6H-Dibenzo[b,d]pyran-9-methanol, 6a,7,8,10a-tetrahydro-1-hydroxy-6,6-dimethyl-3-pentyl-, (6aR,10aR)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



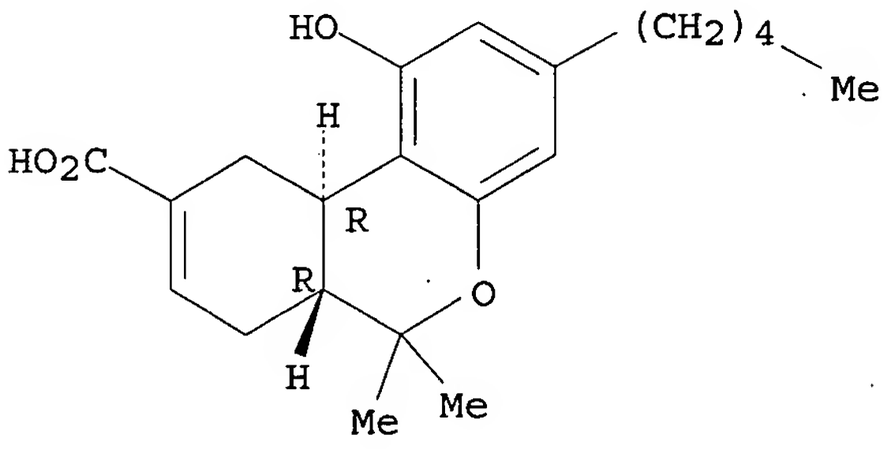
RN 36913-21-0 HCAPLUS
CN 6H-Dibenzo[b,d]pyran-1,8-diol, 6a,7,8,10a-tetrahydro-9-(hydroxymethyl)-6,6-dimethyl-3-pentyl-, [6aR-(6aα,8β,10aβ)]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

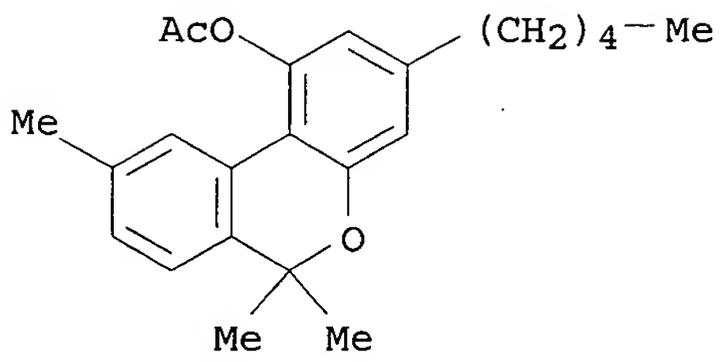


RN 39690-06-7 HCAPLUS
CN 6H-Dibenzo[b,d]pyran-9-carboxylic acid, 6a,7,10,10a-tetrahydro-1-hydroxy-6,6-dimethyl-3-pentyl-, (6aR,10aR)- (9CI) (CA INDEX NAME)

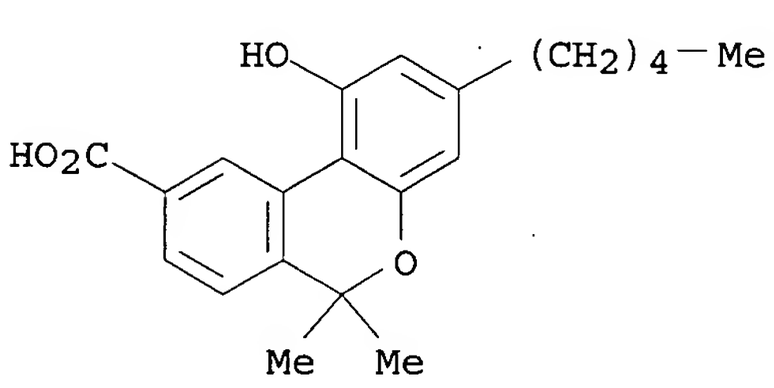
Absolute stereochemistry.



RN 51895-51-3 HCAPLUS
CN 6H-Dibenzo[b,d]pyran-1-ol, 6,6,9-trimethyl-3-pentyl-, acetate (9CI) (CA INDEX NAME)

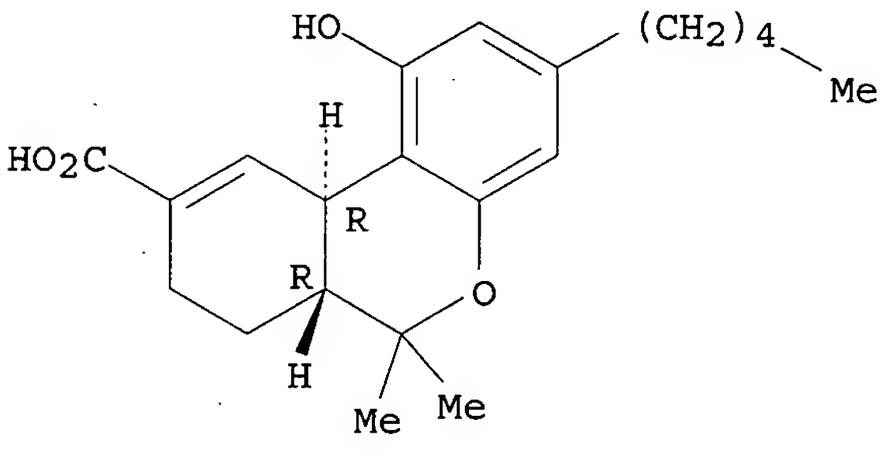


RN 53989-32-5 HCAPLUS
CN 6H-Dibenzo[b,d]pyran-9-carboxylic acid, 1-hydroxy-6,6-dimethyl-3-pentyl- (9CI) (CA INDEX NAME)



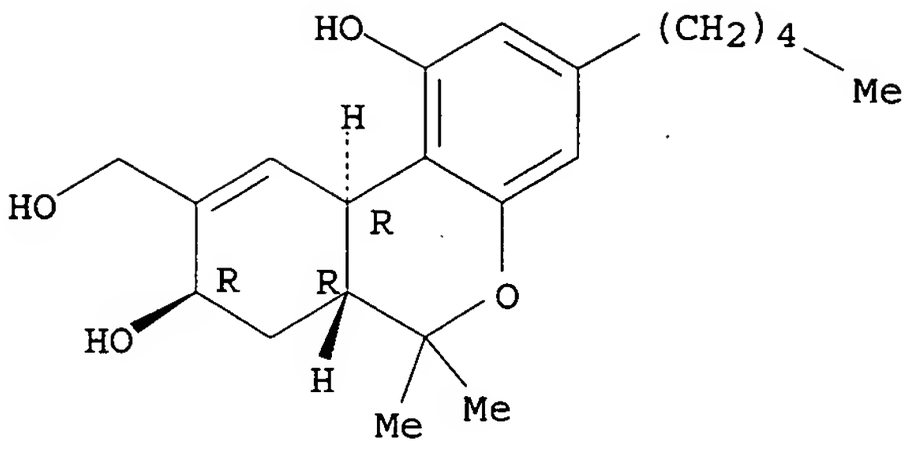
RN 56354-06-4 HCAPLUS
CN 6H-Dibenzo[b,d]pyran-9-carboxylic acid, 6a,7,8,10a-tetrahydro-1-hydroxy-6,6-dimethyl-3-pentyl-, (6aR,10aR)- (9CI) (CA INDEX NAME)

Absolute stereochemistry. Rotation (-).

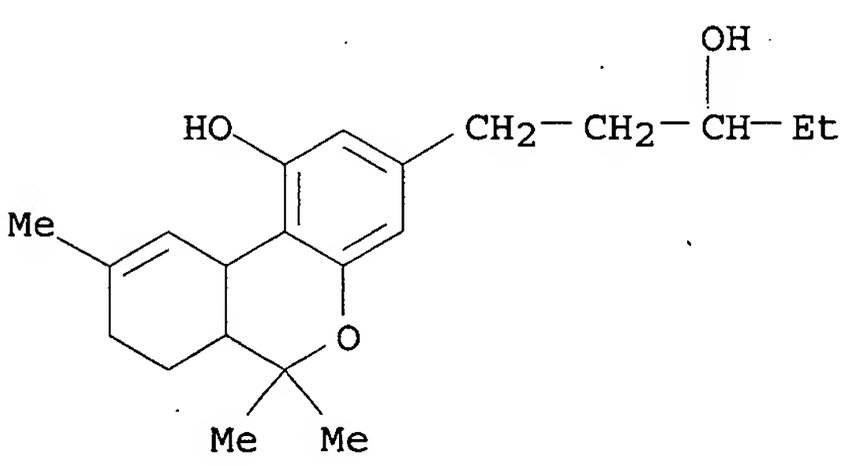


RN 57030-51-0 HCAPLUS
CN 6H-Dibenzo[b,d]pyran-1,8-diol, 6a,7,8,10a-tetrahydro-9-(hydroxymethyl)-6,6-dimethyl-3-pentyl-, (6aR,8R,10aR)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

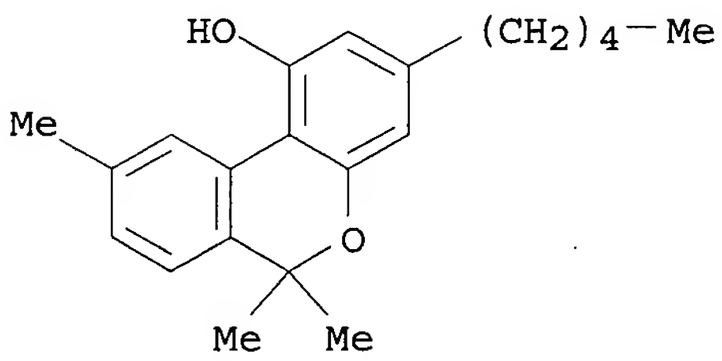


RN 58434-44-9 HCAPLUS
CN 6H-Dibenzo[b,d]pyran-3-propanol, α-ethyl-6a,7,8,10a-tetrahydro-1-hydroxy-6,6,9-trimethyl- (9CI) (CA INDEX NAME)



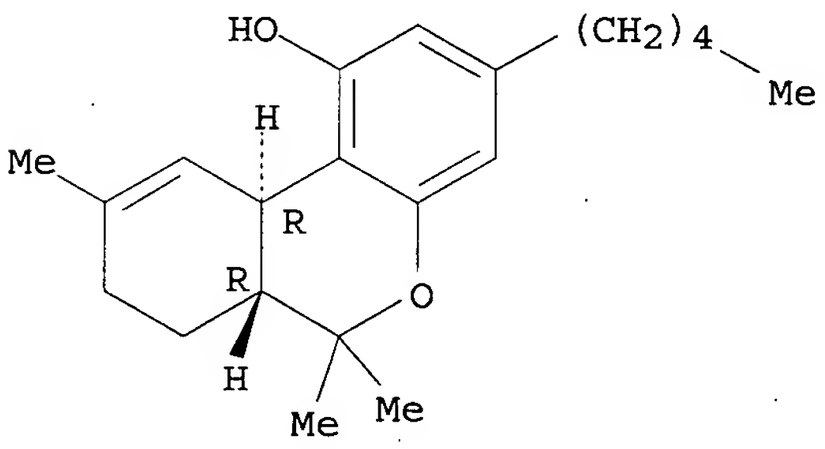
L56 ANSWER 32 OF 32 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1978:608920 HCAPLUS
DOCUMENT NUMBER: 89:208920
TITLE: Molar volume relationships and the specific inhibition of a synaptosomal enzyme by psychoactive **cannabinoids**
AUTHOR(S): Greenberg, Jeffrey H.; Mellors, Alan; McGowan, John C.
CORPORATE SOURCE: Guelph-Waterloo Cent. Grad. Work Chem., Univ. Guelph, Guelph, ON, Can.
SOURCE: Journal of Medicinal Chemistry (**1978**), 21(12), 1208-12
CODEN: JMCMAR; ISSN: 0022-2623
DOCUMENT TYPE: Journal
LANGUAGE: English
AB The ability of lipophilic compds. to inhibit the mouse-brain synaptosomal enzyme lysophosphatidylcholine acyltransferase [9027-64-9] was determined in vitro. Psychoactive **cannabinoids**, at lower levels than those predicted from their capacity to cause anesthesia, inhibited the enzyme, whereas **nonpsychoactive cannabinoids** did not show specific inhibition. M volume correlations were used to distinguish the nonspecific inhibition of the enzyme shown by all lipid substances from the specific inhibition shown by the psychoactive **cannabinoids.** The ability of the compds. to inhibit synaptosomal acyltransferase was compared with their ability to expand erythrocytic membranes.
IT **521-35-7 1972-08-3 5957-75-5**
25654-31-3 36557-05-8
RL: BIOL (Biological study)
(synaptosomal lysophosphatidylcholine acyltransferase inhibition by)
RN 521-35-7 HCAPLUS

CN 6H-Dibenzo[b,d]pyran-1-ol, 6,6,9-trimethyl-3-pentyl- (7CI, 8CI, 9CI) (CA INDEX NAME)



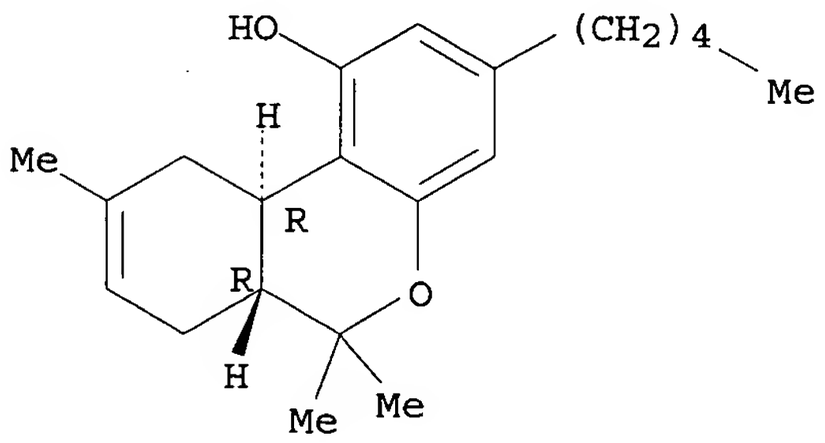
RN 1972-08-3 HCAPLUS
CN 6H-Dibenzo[b,d]pyran-1-ol, 6a,7,8,10a-tetrahydro-6,6,9-trimethyl-3-pentyl-, (6aR,10aR)- (9CI) (CA INDEX NAME)

Absolute stereochemistry. Rotation (-).



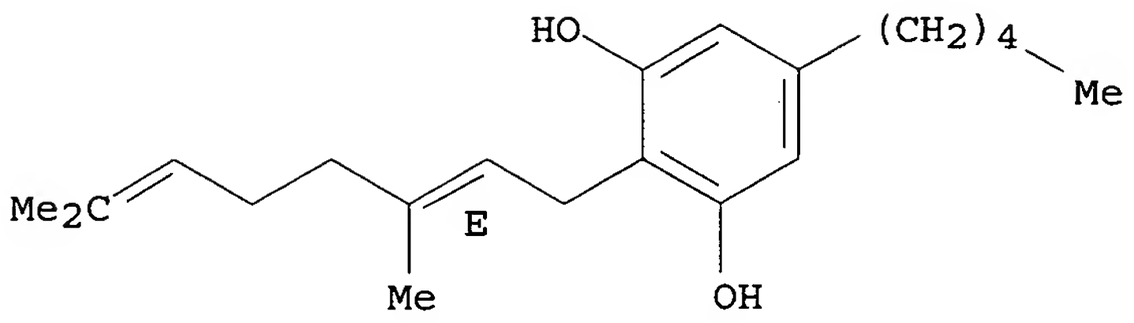
RN 5957-75-5 HCAPLUS
CN 6H-Dibenzo[b,d]pyran-1-ol, 6a,7,10,10a-tetrahydro-6,6,9-trimethyl-3-pentyl-, (6aR,10aR)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



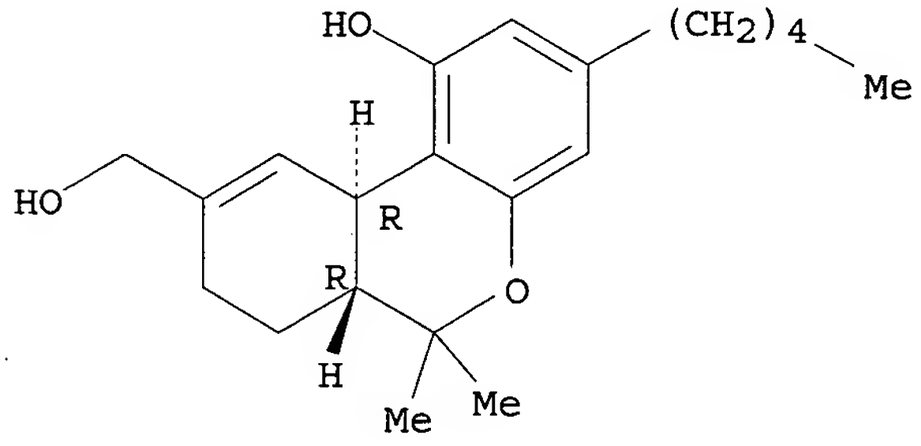
RN 25654-31-3 HCAPLUS
CN 1,3-Benzenediol, 2-[(2E)-3,7-dimethyl-2,6-octadienyl]-5-pentyl- (9CI) (CA INDEX NAME)

Double bond geometry as shown.



RN 36557-05-8 HCAPLUS
CN 6H-Dibenzo[b,d]pyran-9-methanol, 6a,7,8,10a-tetrahydro-1-hydroxy-6,6-dimethyl-3-pentyl-, (6aR,10aR)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



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=> => d stat que l7
L5                  STR
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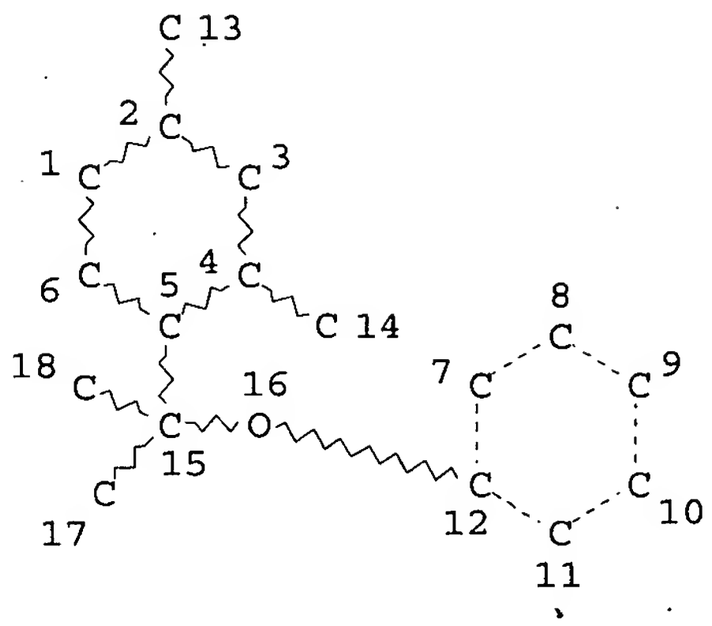

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NODE ATTRIBUTES:
DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS  18

STEREO ATTRIBUTES: NONE
L7              0 SEA FILE=REGISTRY SSS FUL L5

100.0% PROCESSED    184 ITERATIONS                          0 ANSWERS
SEARCH TIME: 00.00.01


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